



Association of Indiana University Chemists

NEWSLETTER

VOLUME XXVII, No. 3

ASSOCIATION OF INDIANA UNIVERSITY CHEMISTS

MARCH 1982

REMODELING IN THE CHEMISTRY BUILDING

(by James Allen)

The condition of Department facilities was much in the news recently. Although a final decision has not been reached regarding total remodeling and new construction, a number of small projects have been funded and are either completed or soon to be started.

Air conditioning continues to provide problems in the Addition, especially where computers are used to support research. A year ago a supplemental system was installed for Gary Hieftje. This year, systems have been installed for Jay Kochi and Milos Novotny. In addition, air conditioning for the NMR laboratory was upgraded.

The Animal Quarters, located in the Addition 7th floor, have been improved. In order to comply with federal regulations, rooms have been added for rabbits and for feed storage. This will once again permit housing rabbits which had been temporarily halted as a result of these Federal guidelines. These new facilities will be utilized by Al Lewin and several other biochemists.

Recently the laser research laboratories of Charles Parmenter were remodeled. Two adjacent rooms were combined into one large laboratory equipped with overhead plumbing and electrical connections. This provides the flexibility needed to undertake a wide variety of experimental setups not previously practical. Another remodeling effort recently completed was the conversion of student study space on the 6th floor of the Addition for the dry box research of Malcolm Chisholm and Kenneth Caulton.

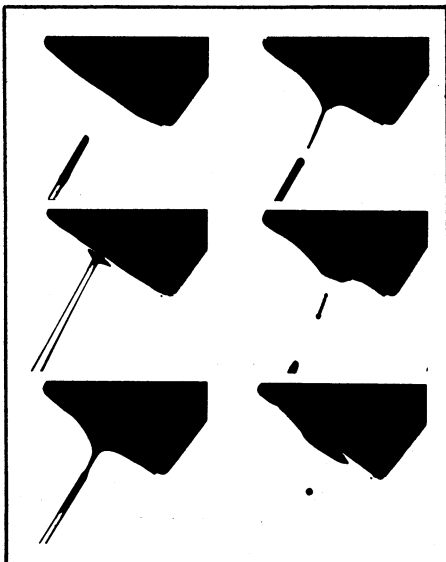
Several projects have been funded which are directly related to safety. For several years OSHA violations which were expensive to correct were deferred, and also there were a number of Addition deficiencies resulting from a construction dollar shortage. One major deficiency being corrected is the filling of plumbing system holes in the ceiling/floor of almost every laboratory. These holes are being sealed with rapid drying cement. This project will require almost three months to complete. Since filling holes from the floor side would require removal of laboratory benches and a major disruption to research most of the holes will be sealed on the ceiling side. Another major safety-related project yet to

be funded will be for OSHA-approved eye-washers for each teaching and research laboratory.

The Chemistry Scientific Storeroom will also be remodeled to bring it closer in line with safety and OSHA regulations. A concrete block wall will be built around the chemical storage area to provide better hazard containment and improve facility protection. An office area will be walled-in to separate personnel from the chemical areas and a separate excess chemical storage room will be constructed for storage of chemicals for research groups that don't have adequate storage space in their research area. Firedoors are also to be installed at all entrances.

STAFF AWARD FOR OUTSTANDING SERVICE

Shirley Humphrey was presented with the Department's 1981 Staff Award in recognition of her outstanding service as a member of the Department over a period of 23 years. Shirley came to the Department in 1958, serving as secretary to Dr. Robert Fischer, the Department's first Director of Laboratories. Over the years Shirley has proven herself to be a dedicated member of the Business Office staff, providing vital support to faculty, students, and staff alike.



What is it? For an explanation see page 2.

AWARD FOR MERITORIOUS SERVICE BY CHEMISTRY ALUMNUS



Max Marsh

The departmental Policy Committee has unanimously recommended the creation of an Award for Meritorious Service by an Alumnus of the Department of Chemistry. This award will not be given annually or at any regular intervals but only when exceptionally meritorious service to the Department needs to be recognized.

The Policy Committee also unanimously approved the recommendation that Max M. Marsh, BS'47, of Eli Lilly and Co. be the first recipient of this award, to be presented this spring in recognition of his exceptional record of contributions to the Department as an industrial professor, as an active participant in the Quantum Chemistry Program Exchange, as a member of departmental advisory committees, and for his successful efforts to promote strong interactions between Eli Lilly & Co. and our Department of Chemistry. The Award for Meritorious Service by an Alumnus consists of a gold medal and a certificate.

A symposium in Marsh's honor will be held on March 12, 1982, in the Chemistry Building, room 105 at 2:30 p.m. Talks will be given by scientists of Eli Lilly and Co. who have worked closely with him in the areas of analytical, biological, and theoretical chemistry.

Anyone interested in further information should contact Cheryl Henry in the chairman's office, (812) 335-6239.

A LETTER FROM THE ACTING CHAIRMAN

Dear AIUC Members:

I am pleased to have this opportunity to report to you on a few recent developments in the Department.

Building Project. The request submitted in September by President Ryan to Governor Orr and the Indiana Higher Education Commission for authorization to proceed with planning of the proposed remodeling of an addition to the Chemistry Building and Annex has been temporarily tabled, pending receipt of more detailed information concerning the University's building priorities and consideration of a possible phased approach for the project. The estimated cost of the proposed project is \$30,800,000. It involves the remodeling of approximately 193,500 gross square feet in the present Chemistry Building and Annex, and the construction of an addition to the building of approximately 74,000 gross square feet. Our building needs are critical and we are hopeful of obtaining IHEC approval for the project in the near future.

Grants to the Department. In addition to funding grants from federal agencies in support of specific research projects and equipment, the Department received grants of support from the following private firms and agencies during 1981: Dow Chemical Co. for a minority student scholarship; Camille and Henry Dreyfus Foundation for a distinguished scientist-scholar lecture series; Du Pont—Science and Engineering Grant (unrestricted); Lubrizol Foundation—Scholarship, Fellowship and Award Program; Merck Company Foundation—Grant for Faculty Development; Monsanto. (unrestricted); PPG Industries Foundation (unrestricted); Procter and Gamble Co. for a graduate student fellowship. In addition, the Department has recently been notified by a representative of IBM that they plan to give us a new analytical HPLC instrument and by Hewlett-Packard that they are granting us an automated high-speed ultraviolet spectrophotometer. Each of these instruments is priced in the neighborhood of \$20,000. We are most appreciative of these private grants that are so important in filling needs that we have an especially difficult time meeting from state or federal funding sources. Our program is much richer and more effective as a result.

General Chemistry Program. In May of 1980, Professor R.A.D. Wentworth, an inorganic chemist in residence in the Department for 16 years, was named Coordinator for General Chemistry. His duties include overseeing the curricula of the freshman lecture and laboratory courses, staffing each of these courses with trained Associate Instructors from the ranks of the graduate students, and supervision of the staff who are directly involved in record-keeping and stocking the freshman laboratories. During the ensuing time, Prof. Wentworth has provided a mechanism for training Associate Instructors, installed a

General Chemistry Study Room which is staffed throughout the week with Associate Instructors, and written laboratory manuals for C125 and C126, the laboratory courses for science majors. Dr. Steve Russo was appointed Associate Coordinator of General Chemistry in August of 1981. Dr. Russo has been actively engaged in revitalizing the lecture demonstrations program which had lain dormant for years and in increasing the use of audio-visual teaching aids. Those joining Rupert and Steve in teaching the General Chemistry courses during the 81-82 academic year include: Craig Allen, S126; Kenneth Caulton, C126; Malcolm Chisholm, S105; Jack Crandall, C122; George Ewing, C100; Joyce Heckman, C102; Gary Hieftje, S125; Terry Jenkins, C122; Lawrence Montgomery, S106; Charles Parmenter, C105; Dennis Peters, C106, C107; John Richardson, C102; Lee Todd, C125; Vic Viola, C121. In addition Professor Joseph Gajewski taught C105 for the first time last fall. We consider freshman chemistry teaching to be one of our most important and difficult responsibilities and strive to involve our best and most experienced faculty in it. We are fortunate in having a dedicated crew of faculty members who are willing to take on these responsibilities.

Staff News. After 19 years of dedicated service to our department, Pat Chambers retired last July 1. Pat joined the Chemistry staff in 1962 and served in the Graduate Adviser's Office from 1966 until 1976. I am sure that many of our graduate student alumni will remember the benefits they received from her helpful service there. In 1976 she became data processing clerk, responsible for helping the Director of

EXPLANATION OF PHOTO ON PAGE 1

This is a device, in action, dreamed up by Professor Gary Hieftje for producing microdroplets to be used as individual samples in various analytical chemistry procedures. Alternatively the device could be used to dispense microaliquots of precious samples or solutions, such as enzymes.

In operation, begin at the top left and work downward. The blob in the upper right-hand corner of each frame is a 3-mm glass tube which serves as a bulk liquid reservoir and which contains a tiny amount of the liquid to be dispensed. A drawn glass needle (150 μ m in diameter) is then driven into the bulk liquid by means of a piezoelectric device. In the bottom, left-hand frame, the needle is being withdrawn from the liquid and pulls with it a filament of liquid solution. In the top frame, right-hand side, the liquid filament detaches from the needle but remains slightly affixed to the bulk liquid. In the next frame, the filament of liquid is detached from both the needle and the bulk liquid and appears as a stream of tiny, connected droplets which coalesce, in the final frame, and fall freely into the sample vessel.

Laboratories (and later Director of Chemistry Business) analyze and control departmental expenditures. At the Chemistry Honors Banquet on April 15, 1980, she shared the Departmental Award for meritorious service by a staff member. She decided to retire for reasons of poor health. We miss her and her work for the Department. Dick Martin who joined the Machine Shop in 1966 suffered a heart attack last Fall and is currently on medical leave. We look forward to his recovery and return to work in the Spring. Miriam Bonham has temporarily left the Chemistry Library to serve as Acting Librarian for the Swain Hall branch while a search is being conducted for a regular replacement. We hope that she doesn't decide to stay on over there indefinitely!

Our chemistry department is a changing, active organization and a stimulating place to work. It is indeed a privilege to be able to share the excitement of learning and discovery in a rapidly developing field of science on a daily basis with students and colleagues.

I hope to see many of you on return visits to the campus and at the AIUC Social Hours at the ACS Meetings in Las Vegas and Kansas City.

V.J. Shiner, Jr.
Professor and Acting Chairman

FAILURES TO RECEIVE NEWSLETTERS

In spite of our best efforts some alumni and others fail to receive their Newsletters. The best way to assure delivery is to belong to the Indiana University Alumni Association. For efficiency and economy we use the Association's address printouts of chemistry alumni. Persons whom we know are not alumni members are added to the supplemental mailing list. Readers who know of others interested but not receiving the Newsletter should give us the correct mailing address.

A single dues payment confers dual membership in the IU Alumni Association and the College of Arts and Sciences-Graduate School Alumni Association.

Single Annual—\$16

Single Life—\$200

Family Annual—\$20

Family Life—\$250

Make checks payable to IU Alumni Association, IMU-M17, Bloomington, Indiana, 47405.

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HOOD TO VISIT AS DREYFUS FOUNDATION DISTINGUISHED SCHOLAR

Professor Leroy E. Hood, Chairman of the Department of Biology at the California Institute of Technology, will be visiting the department this spring for one week as a **Camille and Henry Dreyfus Distinguished Scholar**. Professor Hood has done distinguished and timely research in the genetics and evolution of multigene systems, genetics and evolution of antibody diversity, chemistry and genetics of eukaryotic membrane proteins, and protein evolution.

Professor Hood will be on campus the week of April 18. His lectures are scheduled for April 19 and 21 in Ballantine Hall 013 and April 22 in Jordan Hall 124. The lectures will begin at 4:00 p.m. each day.

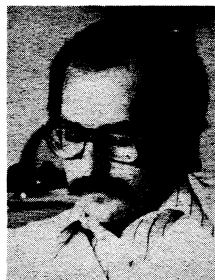
MEET TWO NEW FACULTY MEMBERS

Joyce Ellen Heckman, recently appointed as Assistant Professor of Biochemistry, was born and raised in Kokomo, Indiana. She received her bachelor's degree from the University of Chicago in 1969 and a PhD from The Massachusetts Institute of Technology in 1975. She also did post-doctoral research at MIT from 1975-1980.

Her research interests lie in the areas of nucleic acid biochemistry and molecular biology, particularly with respect to the control of gene expression in higher organisms. One of her research projects is an investigation of the molecular biology of mitochondria in corn plants.



Joyce Ellen Heckman



Alfred Lewin

Alfred Lewin was born in 1951 and was raised in Hammond, Indiana, where he attended Gavit High School. He then went to the University of Chicago where he received a BA in 1973 and PhD in Biological Sciences in 1978. Dr. Lewin's research advisor was a cardiologist, Dr. Murray Rabinowitz of the Departments of Medicine and Biochemistry. His thesis concerned the molecular genetics of mitochondria in baker's yeast. From Chicago, he moved to the University of Basel's Biocenter in Basel, Switzerland, and served there as postdoctoral assistant to Dr. Gottfried Schatz working on the synthesis of mitochondrial enzymes. Dr. Lewin is married to Patsy Gross (of Gary, Indiana). They have two children, Adam, age 5 and Micah, 8 months.

Dr. Lewin continues to investigate the

molecular biology of cell organelles. In particular, he studies the assembly of mitochondrial enzymes responsible for synthesis of adenosine 5'-triphosphate (ATP), the cell's main energy courier. He has received grant support from the Research Corporation and the National Institutes of Health, and recently received a Junior Faculty Research Award from the American Cancer Society.

SYMPOSIUM ON INORGANIC CHEMISTRY

A symposium on "Inorganic Chemistry: Toward the 21st Century" will be held on the Bloomington campus, May 16-19, 1982. The symposium will be chaired by Professor **Malcolm Chisholm**.

The symposium is of historic significance in bringing together in joint sponsorship the Divisions of Inorganic Chemistry of the American Chemical Society, the Chemical Institute of Canada, and the Dalton Division of the Royal Society of Chemistry (UK). Some 300 chemists are expected to attend and a symposium series volume, based on invited lectures and contributed discussions and papers, will be published by the American Chemical Society. Several alumni have already indicated that they wish to participate in this symposium. Further information can be obtained from Ms. Cynthia A. Truax, Conference Secretary, in care of the Department of Chemistry, Indiana University, Bloomington, IN 47405.

FACULTY NEWS

Russell Bonham received an Alexander von Humboldt Senior Scientist Award to carry out research in the chemistry department at the University of Konstanz in West Germany for the period June through August of 1981. While there he worked on a many-electron theory of Compton scattering with Professor Wolf Weyrich of the University of Konstanz.

Malcolm Chisholm was awarded in 1981 the 1979 Corday-Morgan medal and prize of the Royal Society of Chemistry (UK) for his contributions to transition metal chemistry, with particular emphasis on the chemistry of compounds with metal-metal bonds. He was also the recipient of the ACS Akron Section award for 1981 which is given to a young chemist under the age of 40 who shows great promise and resides within a 300 mile radius of Akron, Ohio.

Chisholm organized a symposium at the 28th IUPAC Congress meeting in Vancouver, August 1981, on "Recent Advances in the Chemistry of Metal-Metal Bonds." He also presented a plenary lecture at the meeting and at two symposia at the Fall 1981 ACS National meeting in New York City. He was an invited lecturer at the Annual Congress of the Royal Society of Chemistry, which was held at Guildford University, England, May 1981, and at a U.S.-France Workshop on "The Activation

of CO₂ by Transitional Metal Complexes," Rennes, France. Other invited lectures were: First McElvain Lecturer at the University of Wisconsin; at the universities of Missouri, South Carolina, Arizona, and Florida; Michigan State University; Virginia Polytechnical Institute and University, Kent State University, Columbia University and at the B.F. Goodrich Rubber Company and the Goodyear Rubber Company in Akron, Ohio.

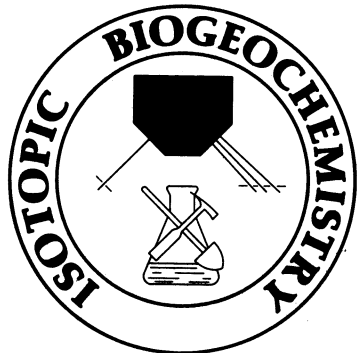
Harry G. Day continues to be as active as ever in the affairs of the department and of the local community, state and nation. He has been a member of the Select Committee on GRAS Substances (Generally Regarded as Safe Substances) of the Federation of American Societies for Experimental Biology since 1973. The committee has evaluated the safety of over 400 substances in its role as advisor to the FDA in its presidentially mandated safety review. Former Secretary of the Department of Health and Human Services, Mrs. Patricia Roberts Harris, has written Dr. Day and states, in part, "...The reports of the Select Committee, containing its evaluations and its advisory opinions regarding the safety of GRAS food ingredients, have provided scientific judgements that have high credibility among the scientific community, the regulated industry, and the general public.... The GRAS Review was the product class review undertaken by the agency and required the Select Committee to develop innovative approaches to establish effective scientific and administrative review mechanisms. The reports produced by the Select Committee represent the largest, most comprehensive and authoritative review of food safety in the world...."

Dr. Day is in his third year as President of the Board of the IU Retirement Community which is constructing the Meadowood retirement community just off Bypass 46 on the north side of Bloomington, near the Cyclotron Building. Construction will be completed this year. Among Dr. Day's other community service activities are memberships on such groups as the Indiana Community Mental Health Planning Advisory Board, the Southern Indiana Health Systems Agency Board, the Indiana Blue Cross Hospital Rate Review Committee, the E.V. McCollum Commemorative Committee, and the Board of Directors of the Franklin United Methodist Home. His professional activities include Speaker of the Year, Indiana Academy of Science, 1980-81 and the Committee on History of Nutrition of the American Institute of Nutrition.

Joseph Gajewski's book entitled *Hydrocarbon Thermal Isomerizations* was published by Academic Press in 1981.

Paul A. Grieco spent three weeks in April 1981 as a visiting lecturer in the Republic of South Africa as a guest of the South African Chemical Institute. While there, he attended and spoke at the "National Symposium on Organic Chemistry" at the

University of Stellenbosch, Cape Town, South Africa. He also toured and spoke at eight other universities in South Africa. At the national meeting of the American Chemical Society in Las Vegas, March 28-April 2, 1982, Paul will receive the 1982 Ernest Guenther Award in the Chemistry of Essential Oils and Related Products for his outstanding contributions to this field.



INDIANA UNIVERSITY

John Hayes, who has long held a joint appointment in the Departments of Chemistry and Geology, has taken to referring to himself as a "biogeochemist," and, together with the members of his research group, has established "The Indiana University Laboratory for Isotopic Biogeochemistry." This particular development is highly unofficial, the name being chosen as much for its polysyllabic humor as for its accurate description of the research. Nevertheless, a representative crest (shown above) bearing an isotope-ratio mass spectrometer, culture flask, and geologist's tools has been designed and now adorns the tee shirts of the local practitioners of this budding sub-sub-specialty.

A portion of Hayes' most recent work has concerned isotopic evidence ($^{13}\text{C}/^{12}\text{C}$ ratios in sedimentary organic matter) for the sequential development of various biochemical pathways (autotrophy, methanogenesis, oxygenic photosynthesis, etc.) in the earliest stages of earth history, 3.5 to 1.0 billion years before the present. Along those lines, Hayes recently served as the convener of the paleobiology section of the Airlie House Conference on Early Crustal Genesis held at Washington, D.C., in late November; in December, he was an invited participant in the "Jindabyne Conference" sponsored jointly by the U.S. and Australian National Academies of Science. The Jindabyne Conference was held near Canberra, Australia, at Lake Jindabyne in the Snowy Mountains. Though it was well into the austral summer, snow fell near the conference site as the participants pondered evidence bearing on the earliest history of life on earth. Passing through Sydney on his return, John was able to call Walter Moore and say hello. Walter reported that he and his research were thriving but that his Christmas cards had been badly delayed by an Australian mail strike. Fearing that

they might never be delivered, he asked John to wish all his friends at IU a very Merry Christmas and Happy New Year.

Gary Hieftje presented an invited lecture at the recent International Conference on Atomic Spectroscopy and Colloquium Spectroscopicum Internationale, held in Tokyo, Japan, in September 1981. He has also been elected to preside over the 1982 Gordon Research Conference on Analytical Chemistry to be held in August in New Hampton, New Hampshire. Gary spent three weeks last summer in Venezuela where he presented some 24 lectures on various topics at several universities including Universidad Central de Venezuela and the Venezuelan Institute for Scientific Research (IVIC) in Caracas, and the University of the Andes in Merida. During the past year he has also been co-editor of two more books.

Peter W. Langhoff was invited to spend the month of March 1981 at the University of Sydney, Australia, where he gave a series of lectures in their Department of Theoretical Chemistry. He was also invited to lecture at the Australian National University, Canberra, the Flinders University of South Australia and Monash University, Melbourne, during his stay in Australia. He spent the month of August 1981 by invitation at the Université de Paris, Orsay, France, in the Laboratoire des Collisions Atomique et Moleculaires as Professeur Associé and the month of September 1981 at the Max Planck Institut für Physik und Astrophysik, Garching bei München, as part of a continuing collaboration between that institution and his research group.

Lynne L. Merritt, Jr, is now back in the Department teaching C315, Chemical Measurements Laboratory I. He still retains the title of Special Assistant to the President and, in this capacity represents the University on the boards of a number of organizations such as MUCIA (Midwest Universities Consortium for International Activities) (along with John Lombardi), AURA (Associated Universities for Research in Astronomy) (with Frank Edmondson) and the Universities Space Research Association. In connection with his MUCIA position he attended the annual review of MUCIA's project at the Tribhuvan University campus in Rampur, Nepal, in December, 1981, stopping on the way to visit alumni in Bangkok, Thailand. Lynne also serves as Grand Marshal of the University.

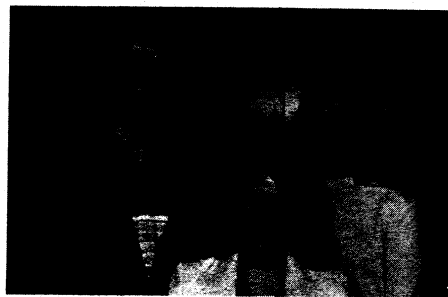
Milos Novotny spent the fall semester of 1980-81 on sabbatical leave at the Max Planck Institut für Biologie, Tübingen, West Germany, where he investigated some problems related to the chemical communication systems in rodents and the major histo-compatibility complexes of the mouse. The research is currently being continued at IU in collaboration with the German group. As a member of the Committee on Strategies to Unusual Chemical Hazards of the U.S. National

Academy of Sciences, he participated in April, 1981, in a committee workshop, organized in Milan, Italy, with the Italian National Institute of Health. The committee's responsibilities include the follow-up on a 1976 chemical accident in Seveso, Italy, and multichemical contamination problems worldwide.

In May 1981, Milos presented plenary lectures at the International Symposium on Capillary Chromatography in Hindelang, Germany, and the International Symposium on Modern Liquid Chromatography, Avignon, France. In September 1981, Milos was again in Europe giving lectures at the 1981 Advances in Chromatography International Symposium in Barcelona, Spain; the University of Ghent, Belgium; the Technological University of Eindhoven, Netherlands, and the University of Rome, Italy. In November 1981, he gave an invited, plenary lecture at the Annual Meeting of the Finnish Chemical Society, Helsinki, Finland. On the same trip, he gave seminars at the University of Tampere, Finland, and the University of Uppsala, Sweden.

Charles Parmenter, during the past year, has lectured at a number of scientific meetings including the 10th International Conference on Photochemistry, in Crete, Greece, where he was joined by former PhD students George Atkinson, now at Syracuse University and Merlyn Schuh, now at Davidson College. Professor Atkinson also gave an invited talk at the same meeting.

Victor Viola was an invited speaker at the International Workshop on Gross Properties of Nuclei and Excitations, Hirshegg, Austria; NATO Summer School on Cosmochemistry and the Origins of Life, Maratea, Italy, and at Washington University, St. Louis, and Ball State University. He has been elected to the Executive Committee of the National Superconducting Cyclotron Laboratory at Michigan State University and has been appointed to the Review Committee of the Nuclear Sciences Division, Lawrence Berkeley Laboratory, and the ACS Division of Nuclear Chemistry Liaison Committee with DOE/NSF Nuclear Sciences Advisory Panel.



Mark Ritter, Melodye Smith and Anne Wininger, junior chemistry majors at Indiana University Bloomington, received Merck Index Awards at the Chemistry Honors Banquet last spring. The awards are presented through the courtesy of Merck Co. to chemistry students in recognition of high scholarship.

UNDERGRADUATE OFFICE NEWS

(D. G. Peters, Ed.)

During the second semester of 1980-81, the Department had 450 undergraduate chemistry majors (compared to 448 second semester of 1979-80). We graduated a total of 132 students (104 with AB degrees—down 14 from 1980—and 28 with BS degrees—down 4 from 1980). For first semester of 1981-82 we have a total of 464 undergraduate chemistry majors.

Twenty students participated in our Chemistry Honors Program during 1980-81 and 38 students engaged in C409 Chemical Research (an undergraduate research program entailing up to 10 hours of credit and requiring a thesis). Fifty graduating seniors went on to medical school, 12 to dental school, 11 to graduate school in chemistry, 12 to graduate work in other areas, and 23 to industry.

In July 1981 the State of Indiana Commission for Higher Education approved our new BS degree in Biochemistry. Our first group of four BS in Biochemistry degree students will graduate in May 1982.

The annual Chemistry Honors Banquet was held on April 16, 1981. The following undergraduate students were honored:

Our Outstanding Senior Award (made possible by the Arts & Sciences Alumni Association Scholarship and Award Fund) went to **Brian D. Clarke**. **John N. Caviness** was awarded the 1981-82 Courson-Greeves Prize, and **Edwin M. Horwitz** received the Frederic C. Schmidt Award. **Keith D. Bowersox** received the Joseph B. Schwartzkopf Award, and **Francesca Perugini** received an award from the Southern Indiana local ACS section. **Anthony D. Burke** was recipient of The Dow Award.

Merck Indexes were presented to **Mark E. Ritter**, **Melodye A. Smith**, and **Anne M. Winger**.

The R. J. Grim Scholarship recipients for 1980-81 were **Robert L. Bergren**, **Keith D. Bowersox**, **Cheryl A. Brigham**, **Renita A. Brown**, **John N. Caviness**, **Brian D. Clarke**, **Rosina M. Georgiadis**, **David D. Scheid**, **Melodye A. Smith**, **Charles R. Troyer**, **Anne M. Winger**, and **David A. Wilson**.

Ira E. Lee Scholarships for full-time summer research for 1981 were awarded to **Mark R. Anderson**, **Paul R. Downing**, **Rosina M. Georgiadis**, and **Paul J. Lipson**. Dow Chemical Company summer scholarships were awarded to **Robert B. Burnham**, **John N. Caviness**, **Rodney J. Folz**, **Mark A. Henderson**, and **Melodye A. Smith**.

Six students were recognized as superior in various freshman chemistry courses and received book certificates. Thirty-four chemistry majors were elected to membership in Phi Beta Kappa. Nineteen seniors, 18 juniors, and 23 sophomore chemistry majors were on the Departmental Honor Rolls.

The Chemistry Placement Office hosted 21 companies conducting a total of 216 interviews. These included American Cyan-

amid, Calgon Corporation, CONOCO, Dow Chemical Company, E.I. DuPont, Eli Lilly and Company, Inland Steel, Lubrizol Corp., Mobil Oil Company, Monsanto, Proctor and Gamble, Rohm and Haas, Shell Oil Development Company, Spectra Physics Inc., Standard Oil (IND), Standard Oil (OHIO), 3M Company, Union Carbide Corporation, Universal Oil Products, Upjohn Company, and Western Electric Company.

During the 1980-81 school year, Dr. **Dennis G. Peters** served as Coordinator of Undergraduate Studies and **Holly M. Willett** as Academic Counselor and Placement Office Manager.

GRADUATE OFFICE NEWS

(J. Hayes, Ed)

During the 1980-81 school year, Professor or **John Hayes** was graduate adviser. Serving with him on the Standards Committee were: Professors **Ewing**, **Hieftje**, **Mahler**, **Montgomery**, and **Todd**.

Professor **Jack Crandall** chaired the Graduate Admissions Committee. The arduous task of evaluating the hundreds of dossiers that were circulated through the committee and following-up on the offers thus generated was performed by Professors **Caulton**, **Reilly**, **Richardson**, **Wightman** and **Williams**. A total of 40 students started their graduate work at IU last Fall. In addition, five students were admitted for Spring 1982.

FELLOWSHIP HOLDERS: The recipient of the Lubrizol Fellowship for 1980-81 was **John A. Marsella**. Mr. Marsella completed his PhD in July, 1981. His thesis research was completed under Prof. **Kenneth Caulton** and involved "The Reduction of Acyl Complexes with Transition Metal Hydrides." He came to IU in the Fall of 1977 after completing an undergraduate degree at Wayne State University.

Other fellowship winners were: **Kerry L. Blanchard**, **Richard D. England** and **Keith L. March**, who were awarded Medical Scientist Scholarships from the Insurance Medical Scientist Scholarship Fund; **Charles C. Kirkpatrick**, who was awarded a SOHIO Fellowship; **Jon H. Fong** and **Michaelen C. Trimarchi**, who received G*POPs (Graduate and Professional Opportunities Program Fellowships); and **Mary L. Patterson**, who received a College of Arts and Sciences Teaching Fellowship.

Graduate School Fellowships were awarded to the following first year students: **Jonathan O. Howell**, **Richard B. Opsal** and **Craig A. Wilson**. **Cecil S. Ford**, **Reginald O. Stanton** and **Marlon L. Walker** were recipients of Graduate School Minority Fellowships.

Foreign students with fellowships were: **I-Cheng Wang**, Fulbright Fellowship; **Zhen-Min He** and **Rui-lian Shao**, IU/Nankai University Exchange Fellowships; **Diana Hernandez**, **Jose Jimenez**, **Daniel A. Morales**, **Adriano Parisi** and **Nuria Parisi**, Venezuelan Fellowships.

ANNUAL AWARDS: **Bradley M. Stone** was the recipient of an All-University Teaching Award—the Lieber Associate Instructor Award—at Founders Day in April.

This past spring the following students were recognized at the Chemistry Honors Banquet: for excellence in teaching, the Du Pont Associate Instructor Awards went to: **James Douglas**, **Timothy Hanusa**, **Vicki McGuffin** and **Craig Wilson**. The Robert Chernin Award, for outstanding C500 research, was given jointly to **Andrew Ewing**, an analytical chemist, and **Keith March**, a biochemist.

Charles Kirkpatrick was awarded the William Nebergall Memorial Award in Inorganic Chemistry for outstanding graduate research. Mr. Kirkpatrick is doing his research under the guidance of Professor **Malcolm Chisholm**.

Donors To The Department

The Department is grateful for contributions received during 1981 from the following individuals:

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Receiving the William Nebergall Memorial Award in Inorganic Chemistry at the Chemistry Honors Banquet last spring was graduate student Charles Kirkpatrick. Presenting the award was Mrs. William Nebergall.



Associate Instructor Award winners last spring included (from left) James Douglas, Bradley Stone, Vicki McGuffin, Timothy Hanusa, and Craig Wilson. All were recipients of the Du Pont Associate Instructor Awards, except Bradley Stone, who received an all-university award—the Lieber Associate Instructor Award—at Founders Day, 1981.

NEWS OF ALUMNI

(H.G. Day, E. Greene)

Social Hours: Attendance at the social hours at the two ACS meetings in 1981 was about as in former years. At Atlanta in March 1981 (where we shared facilities with Notre Dame) were Stan Sojke, PhD'72, from East Amherst, NY; Don Maulding, PhD'62, from American Cyanamid; Stephen Neumann, BS'74, of Rochester, New York; William "Flick" Coleman, PhD'70, from the University of New Mexico; George Bodner, PhD'72, Purdue University; Marshall Mead from the ACS Washington office; Bill Carroll, PhD'78, from Hooker Chemical and Plastics; Raj Misra, PhD'80, from Princeton; Jimmy Tai, PhD'80, from Eli Lilly; David Tang, PhD'74, from Hooker; Ron Collins, PhD'62, from Eastern Michigan; Stewart Schneller, PhD'68, from U. South Florida; Eric Maatta, PhD'80, from Northwestern; Melvin Druelinger, BS'62, from U.S. Air Force Academy; Phillip Keller, PhD'66, and Jill from the University of Arizona; and Thomas Selby, PhD'79, from DuPont in Wilmington. In addition, several from the Department were also there: Jean and Ernie Campaigne, Joan and Marvin Carmack, Jack Shiner, David Williams, Tom Basso, and Don Kelly. Riley Schaeffer, former

faculty member, also dropped by for a short while.

At New York City in the fall, we participated in the All-School Alumni Social Hour and many who dropped by did not sign our guest book and thus we have no record of their visit. Of those who did sign were Burt Appleton, PhD'58, now living in Rockville, MD; George Bulbenko, PhD'58, from Princeton Biomedix; Yukiko Ebisuzaki, PhD'62, from North Carolina State University; Hugh Gardner, PhD'75; Jon Lindsey, BS'78, from New York City; Ted, AB'53, and Ruthanne Logan from Procter and Gamble; Gary McNamee, PhD'76, now with Dow at Freeport; Raj Misra, PhD'80, from Princeton; Marshall Mead from the ACS Washington Office; Loon-Seng Tan, PhD'81, from Kettering, Ohio; James Wolfe, PhD'63, at VATEch in Blacksburg; and Jean and Jack Young, PhD'55, from Oak Ridge. From the Department there were V.J. Shiner, Malcolm Chisholm, Timothy Hanusa, and Andrew Ratermann.

Among those who visited the Department and stopped in Room 121 (Alumni Records and Archives), Dr. Day's office, were several who had been gone many years. Ru Yu Chen (we knew her as Mrs. Ho when she was in school here), PhD'52, visited with her son (who is currently a graduate student in our Department) and stopped by to renew old acquaintances. She is now affiliated with The Research Institute of Elements-Organic Chemistry, Nankai University, Tianjin, People's Republic of China. Others included J. Paul Burnett, Jr., PhD'61; John Crismore, AB'60, now living in Charlestown, Indiana; Charles, BS'47, and Evelyn (Sisson), BS'43, Frohman, from Grosse Pointe Woods, Michigan; Kenneth Newnam, AB'30, from Angola, Indiana; Eugene M. Seidel, BS(Bus-Chem)'44, from Vancouver, Washington; Guy Gene McLemore, MA'60, from Beechmont, KY; Charles Griffith, BS'48, from U. Kentucky; Stanley Terry, AB'57, from Wheaton, MD; Paul Wible, BS'49, from Phoenix, AZ; Morris Zimmerman, PhD'55, from Watzhump, NJ; and Joseph C. Muhler, PhD'51. Robert Degeilh, PhD'55, visited the department a few days from his home in LePort-Marly, France. This was his first trip back to Bloomington and he says he wants to visit us again with his family to show them the school he attended.

David Barnes, PhD'47, is now Executive Vice President at DuPont and is serving on both boards of DuPont and Conoco, having been involved with the merger. Apparently he's succeeding in making the whole greater than the sum of the parts.

Ram Bedi, PhD'60, and his family toured through Greece and all its historical splendors. Their twin sons, now 21, are each majoring in chemistry and together have founded a company, KJ, and have been successful in selling a device assigned by them to General Motors to be used in skimming floating oils from machine coolant sumps. Ram continues to have back

problems but has found ways to partially alleviate the misery.

Edward Bobalek, PhD'42, was named a Fellow of the American Institute of Chemical Engineers. He is presently on assignment with Environmental Protection Agency at the EPA laboratory in North Carolina.

Tal Bosin, PhD'67, has just returned, as head of IU-Bloomington Pharmacology Group, from a leave at the Karolinska Research Institute, Stockholm, Sweden, where he spent eight months working on analysis of betacarbolines in fluids and tissues.

Bill Bromer, PhD'53, is continuing his breakthrough work on biosynthetic human insulin at Eli Lilly.

George Bulbenko, PhD'58, will remain General Manager of Princeton Biomedics, following the purchase of that company by Electro-Nucleonics, Inc.

J. Paul Burnett, Jr., PhD'61, has been named Director of Molecular and Cell Biology at Eli Lilly. Their son is attending Indiana University-Bloomington and has stopped by the Chemistry Alumni Office a couple of times this fall.

After a number of years at the Mayo Foundation, Gerald Carlson, BS'69, has moved to Racine, WI, to work in the laboratories of S. C. Johnson.

Richard Cline's, PhD'51, son Ken is a reporter for the *Bloomington Herald Telephone*, having completed his degree in journalism at IU last year. Dick is with Communicable Disease Center and lives in Norcross, Georgia.

Ronald Cochran, PhD'77, recently moved from Procter and Gamble in Cincinnati to Ashland Oil and Chemical Company in Columbus, Oh, where Robert J. Sydor, PhD'75, also works.

Robert G. Collins, PhD'65, is in research at the Walnut Creek, CA, laboratory of Dow Chemical. He recently has been involved in a new "Discovery Research" Program at that laboratory. Bob and Joan have two sons: Michael, who has been in college in Texas but will be transferring to California in 1982, and Patrick (8) who is interested in baseball and skiing. Joan is working as a consultant in executive time management.

Sankar K. Datta, PhD'59, now with National Peroxide Limited R&D Centre, visited the U.S. last May but did not get to Bloomington. He hopes to come back and see us this spring.

Robert Degeilh, PhD'55, visited several industrial glass and ceramics laboratories in which his company is interested. Also he visited on campus. The Degeilh family live near Versailles, France. All participate actively in an outstanding choral group in their parish church. Some of the beautiful music has been recorded and made available to the public.

Bryce Douglas, Post-PhD'53-55, was recently promoted to Vice-President for Science and Technology at the corporate management level of Smith Kline Corpor-

ation, Philadelphia. He has responsibility for bringing new scientific technologies into the company's research and development program seeking new therapeutic methods. Dr. Douglas worked at IU in Professor Carmack's group on the chemistry of natural products. After joining SKF research in 1955, he was located in Singapore for two years where he arranged for the collection of many medicinal plants in the Orient and Australia-New Zealand in an extensive search for new chemotherapeutic agents.

William O. Foye, PhD'48, gave the keynote address at the Indiana Pharmaceutical Congress and he delivered several other lectures in India during January 1982. The Second Edition of his well known *Medicinal Chemistry* text has been translated into Japanese. His stepdaughter, Karen Siddons, is a student at IU, living in Briscoe dormitory.

Minas Georgiadis, PhD'64, expects to visit the Department during the summer. His children continue to make an impressive record here: Greg is in Medical School (next year in Indianapolis), Rosina is a senior in chemistry, Katherine is working on campus, and Taxiadis is currently a junior working on an undergraduate research problem with Paul Grieco. Minas will be on sabbatical leave from Athens University and expects to bring Mrs. Georgiadis to Bloomington for a visit.

Jack Gill, PhD'62, and two associates, David Rammler and Douglas DeVivo, have formed Vanguard Associates, 3000 Sand Hill Rd. Menlo Park, CA 94025. Their purpose is to raise capital and to sponsor and promote entrepreneurs in the high technology field (medical-electronic) to set up new corporations and assist in their development. Jack left SpectraPhysics about a year ago to join in this venture.

Charles Guare, PhD'53, joined the academic world, teaching at the Union College (New York) after spending a number of years at General Electric in Schenectady.

Richard Hilderbrandt, post-PhD'71, is on leave this year from North Dakota State University, where he holds the rank of Professor of Chemistry, to serve as Program Officer in the structural chemistry and thermodynamics program at the National Science Foundation in Washington, D.C.

Jonathan Ho, BS'68, has returned to Hong Kong after completing his medical specialties in Houston. His brother David Ho, BS'78, is in graduate school at Purdue.

David, PhD'79 and Anna (Chu), MS'80, Hui report the birth of a baby girl, Michele Sarah, in November. Anna is employed by Genetech in San Francisco and David by Gladstone Foundation for Cardiovascular Diseases (also in San Francisco). They live in Neward, California.

James Jorgenson, PhD'79, has recently developed a new separation technique, high-voltage capillary zone electrophoresis. Jorgenson's research has attracted considerable attention. His results were presented



Leonard A. Neubert

during the past year at the international symposia in Avignon, France, and Barcelona, Spain. He is an Assistant Professor of Chemistry at the University of North Carolina Chapel Hill.

Frank Kavka, Post-PhD'69, continues with Mallinkrodt, in St. Louis, but don't expect the recent purchase by Avon Products to send him door-to-door like an Avon Lady Chemist.

Alan Knight, Post-PhD'73-75, a faculty member at Griffith University, Brisbane, Australia, will be returning to Bloomington to spend four months in collaboration with Charles Parmenter, having received a grant from the Australian government.

Milton L. Lee, PhD'75, a chemistry faculty member at the Brigham Young University, was promoted to Associate Professor and granted tenure this year. Together with M. Novotny and K.D. Bartle, Dr. Lee co-authored the book "Analytical Chemistry of Polycyclic Aromatic Compounds," published last June by the Academic Press.

Gary Loge, PhD'79, has moved from Cornell University, where he was a post-doctoral, to Los Alamos Scientific Laboratory.

Ravi Mehra, PhD'68, has moved from Bombay to New Delhi where he joined Roche (India) as manager of quality control.

Our graduates continue to prove their versatility. Wendell Meyer, PhD'62, won second place in the Midland, Michigan, pipe-smoking contest to see who could keep one pipeful of tobacco burning the longest on one match. The second prize was an \$80 briar pipe. His work at Dow has a distinctly different quality!

John Morgan, AB'63, is now a member of the Greenhills/Forest Park School Board, working on a survey on declining enrollment. At work he has also made a change from product development into the regulatory field at P&G, spending considerable time in Washington each month.

Leonard A. Neubert, PhD'69; MLS in Libr. Sc. & Info. Sci.'77, and his wife, Nancy, live in Charleston, WV, where he is an Information Analyst in Information Retrieval for the Union Carbide Corp. In addition to his work with computerized information services, Len and Nancy enjoy a number of spare time activities, in particular photography, mountaineering, woodworking, and ethnic cooking. Dr. Neubert was on active service as an officer in the U.S. Army in Vietnam.

Stephen Osborn, PhD'57, is now Technical Manager and Principal Investigator on a project at the Franklin Institute, in Philadelphia, to develop a method of breaking down PCB's, which are a problem in landfills at various sites, including some in the Philadelphia area. (In Bloomington, also.)

Bill Paudler, PhD'59, has moved on to become Dean for Science at the Portland State University, Portland, Oregon after several years in Alabama. He and Ronnie and the two children at home are enjoying the new surroundings.

Elsa Proehl Paulsen, AM'45, spent a couple of months in London this fall relaxing and writing a paper. She is Associate Professor of Pediatrics in the School of Medicine at the University of Virginia.

Eduardo M. A. Peixoto, PhD'68, has recently been named Vice President of the Instituto Oswaldo Cruz which is internationally famous in the field of tropical medicinal science. In addition to this post he is still serving as the science advisor to the President of the Brazilian National Development Bank (BNDE). Both institutions are based in Rio de Janeiro where Eduardo now makes his home.

John Pera, PhD'60, is busy opening Buckman Laboratory plants in Durban, South Africa, and Ghent, Belgium. Last year, it was in Dampinas, Brazil. John has been Vice President for Research since January, 1980.

Gerald Recktenwald, PhD'55, has been heavily involved in the designing and building of a 110,000 sq. ft. laboratory building which Air Products and Chemicals expects to occupy in November 1982. He also will be presenting a paper at the Society of Research Administrators meeting in Atlanta this year.

Bill Rogers, PhD'57, long-time member of the National Institute for Dental Research, was the Acting Director of the National Caries Program of NIDR during the first half of 1981.

Richard N. Savage, PhD'79, who was formerly employed by Instrumentation Laboratory of Wilmington, MA, has recently moved to Plasma-Therm, Inc., of Kresson, NJ, where he is manager of their new Analytical Instrumentation Division.

Stewart Schneller, PhD'68, became President of the International Society of Heterocyclic Chemistry after the meeting in Graz, Austria, in late 1980.

Michael Schuyler, PhD'70, left Allegheny College where he has been teaching for sev-

eral years to join the faculty of Oregon State University at Corvallis.

Fredrick M. Stein, PhD'71, Associate Professor of Chemistry at Western State College, has been selected for a two-year position as Visiting Professor of Physical Chemistry at Amherst College in Massachusetts. Dr. Stein will take a two-year leave from Western State.

A Christmas letter from **Bill and Helen Merriam Stewart**, AM' 46, from San Mateo (Costa Rica) relates some of their experiences teaching practical agriculture and home and family management. The poverty of the citizens and the variety of vegetables and fruits that are available makes for a real challenge to help them use their resources and increase productivity. The warm climate with sunning on the beach and eating watermelon in December certainly contrasts with our frostbiting and snowy January in Indiana!

Dick Weddleton, PhD'65, has become Assistant to the General Manager of the Steam Turbine Generator Division of Westinghouse and moved to the Philadelphia area.

Leonard M. Weinstock, PhD'58, is now Director of Process Research of Merck Sharp & Dohme Laboratories, Rahway, NJ. His son, John, is a sophomore at Swarthmore College, and his daughter Amy,

recently visited the Bowdoin College campus where **Eugene Cordes'** daughter is a sophomore and **Dana Mayo**, PhD'59, is a member of the chemistry faculty. Dr. Weinstock has been associated with the development of two important new drugs by Merck: *Timoptic*, for the treatment of glaucoma, and *Blocadren* for the treatment of heart attack patients. Both of these new drugs are based upon the *beta*-blocking agent, *Timolol*, disubstituted 1,2,5-thiadiazole compound—a heterocyclic system which was first pioneered by Weinstock in his doctoral research at Indiana with **Marvin Carmack**.

Richard Wen, PhD'62, has worked in the Research Department of 3M, in Minneapolis, in several areas. He and Donna, have two children, Angela (17) and J.J. (15). Between Dick's travels to 3M's various manufacturing facilities, and Donna's and the children's active schedules of school and hobbies, they have a busy life.

Julie Yang, AM'52, returned to China in May for several weeks. She reports her father's health is improving and her brother, who has been a student at MIT for a couple of years, planned to return to China before Christmas. Her father, S.T. Yang, President of Nankai University, was a post-doctoral fellow here immediately following World War II.

NECROLOGY

Chester Amick, AB'20, AM'31, died at Princeton, New Jersey on October 16, 1980.

Gino Baseggio, B.S.'53, MS'57, died at his home in Crystal Lake, Illinois on October 30, 1980.

Wolfgang Büttner, post-PhD'56-58. Word was received from Mrs. Büttner that he died in April, 1981, in Münster, West Germany, where he had been Director of Clinic for Tooth, Mouth, and Jaw problems at the University of Münster.

Jean Craton, AB'49, MD'53, died December 7, 1980, in Palo Alto, CA. She was associated with the Stanford University Medical School's Department of Psychiatry residency training program.

Bernard Hurst, AB'44, died January 15, 1981, in Tucson, Arizona. He was a retired teacher and principal of Washington Elementary School in East Chicago where he had taught for forty years before his retirement in 1976.

Roy Huitema, PhD'34, died Feb. 5, 1981.

Oscar Menis, PhD'51, died December 13, 1980 at Gaithersburg, Maryland.

Robert H. Treadway, PhD'36, died April 7, 1981.

Lynn Stewart, Post-PhD'62-64, died July 23, 1981. He had been on the faculty at Meharry since leaving IU.

REMINDER

Social Hour for Indiana University Chemists to be held March 30, 1982 at Las Vegas.

We will join with alumni of other institutions again in a combined alumni hour from 5:30 to 7 p.m. on Tuesday, March 30, 1982, in Las Vegas. There will be a sign identifying the I.U. Alumni organization. There will also be a large poster board for our use. What shall we fill it with? Bring any pictures or other items that you would like displayed for your friends.

Look for the location in the list of events which will be displayed at many places in Las Vegas.

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