



Grant allows purchase of NMR

Grants received from the NIH and NSF will enable the department to purchase a new \$630,000 high-field, 500 MHz NMR instrument. This instrument will primarily be used by Drs. Grieco, Magnus, and Williams in the synthesis of natural products and related organic molecules. It will also be used by Dr. Shiner for the study of isotope effects and by Dr. Allerhand for the development and application of "ultra-high" resolution NMR spectroscopy in his research.

The high field of this instrument is important because of the substantially improved dispersion it guarantees, and the additional signal-to-noise ratio it provides; and the improved performance with a low gyromagnetic ratio. The characterization of large organic and bio-organic molecules requires a combination of modern high field FT-NMR and 2D-FT-NMR capability.

Widom to present '86 Gucker Lecture

Dr. Benjamin Widom, Goldwyn Smith Professor of Chemistry at Cornell University, will present the 1986 Frank T. Gucker Lecture Thursday, March 27, at 4:00 pm in Woodburn Hall 101. Dr. Widom will speak on "Models of Microemulsions."

Dr. Widom received his PhD in 1953 from Cornell University under Dr. S.H. Bauer and was a research associate with Dr. O.K. Rice at the University of North Carolina. He returned to Cornell in 1954 and served as chair of the department of chemistry from 1978 to 1981. His research interests are in the thermodynamics and statistical mechanics of phase equilibria and critical phenomena. In recent years he has worked particularly on problems of the structure and thermodynamics of the interface between fluid phases. He is co-author (with J.S. Rowlinson) of "Molecular Theory of Capillarity."

Chemistry Computational Center opened

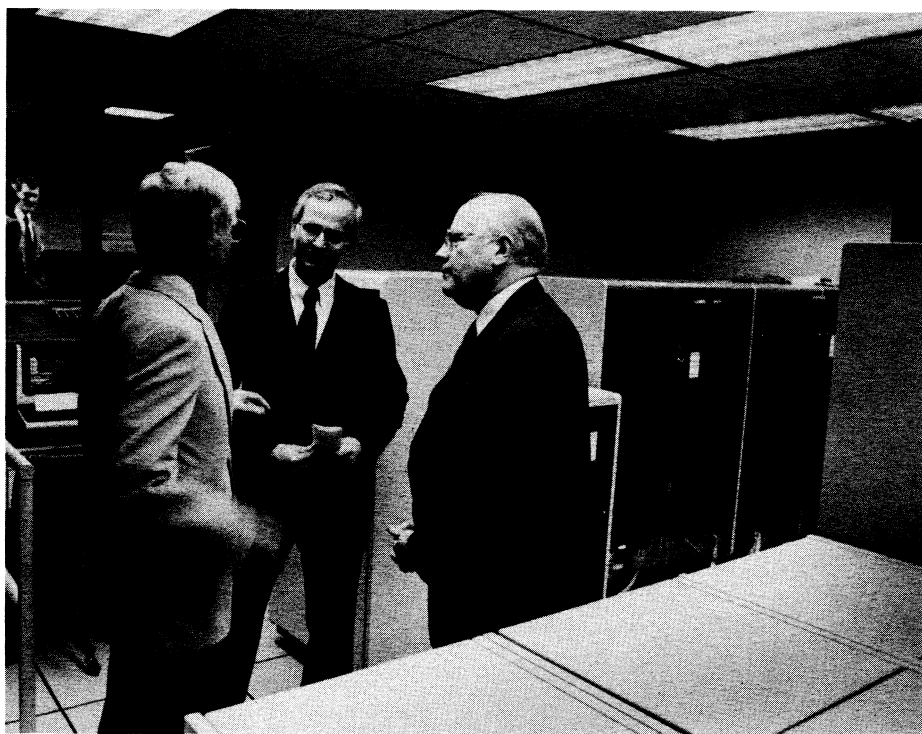
A symposium on theoretical chemistry followed by a formal ceremony conducted by President John Ryan marked the opening of the Chemistry Computational Center last March.

Professor Ernest Davidson coordinated the symposium which featured guest speakers Dr. Charles Bender from Lawrence Livermore National Laboratory, Dr. Donald Boyd from Eli Lilly and Company, and Enrico Clementi from IBM Corporation.

Bender, head of the materials science department of Livermore, emphasized the importance of computers in helping experimental chemists decide which path to follow when it is not clear what to do next, saving time and money that might otherwise be wasted in unpro-

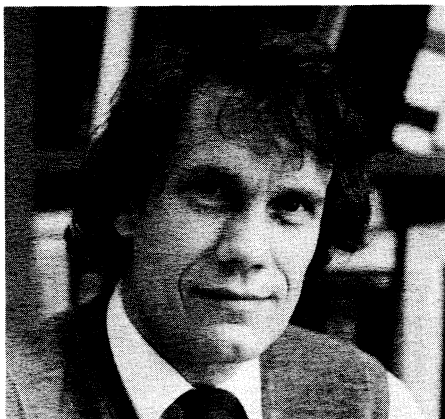
ductive investigations. Boyd spoke about the use of computers in the pharmaceutical industry, explaining that they are able to determine what the molecular structure of a drug should be to produce desired properties. Dr. Clementi, the technical advisor for scientific computation at IBM, explained the chemical and biophysical simulations possible with the new parallel supercomputers.

At the formal opening the next morning, President Ryan reviewed the progress the department has made since the first chemistry faculty member was appointed in 1874, and then cut a red ribbon, formally marking the opening of the center.

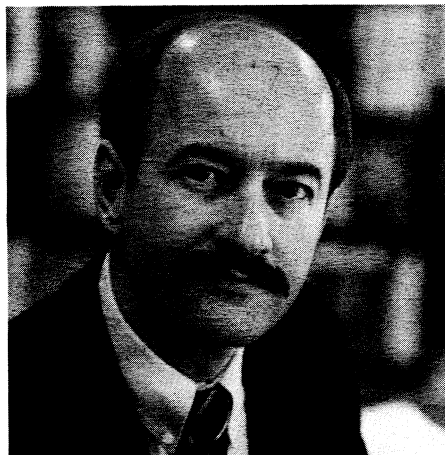


Looking over the new chemistry computer facilities are (from right) IU President John W. Ryan, Chemistry Professor Ernest R. Davidson, and Professor James R. Wood, then acting dean of the College of Arts and Sciences on the Bloomington campus.

Chisholm and Hieftje named distinguished professors



Malcolm Chisholm



Gary Hieftje

Two chemistry faculty members, Drs. Chisholm and Hieftje, were elevated to Distinguished Professors at last year's Founders Day on April 17, 1985. The following citations were part of the program.

Malcolm Chisholm is, at the age of 39, already an international figure in inorganic and organometallic chemistry. He has been described by colleagues in this country and abroad as "one of the leading young inorganic chemists in the world," "one of a handful of truly outstanding inorganic chemists in the world" and "among the top ten organometallic chemists in the world." A Canadian chemist assessed the importance of Chisholm's research contributions:

"Chisholm has undoubtedly been the world leader in developing the reaction chemistry of metal-metal multiple bonds, as well as the structure and bonding of metal-metal triple bonds. Before Chisholm's work, it was simply not realized that metal-metal bonds could give interesting reactions, whereas now the field is growing exponentially. In terms of sustained, high productivity over the past ten years, I believe that Professor Chisholm's achievements match those of any other inorganic chemist in the world."

Similarly, a German chemistry professor has written, "It is not only the impressive number of scientific publications that have led Malcolm Chisholm into the forefront of organometallic chemistry; his scientific originality as a chemist and his fascinating capabilities of presenting and disseminating his ideas and results are unique. It seems very clear that Professor Chisholm is on the way into the phalanx of the most brilliant chemists in your country."

Largely as a result of Chisholm's work, metal-metal multiple bonds are no longer solely the object of theoretical curiosity. They now find a wide range of synthetic applications, as indicated by his participation in numerous seminars at such companies as Du Pont, Monsanto, Exxon, and General Electric. Among the honors Chisholm has received is the Corday-Morgan Medal and Prize awarded by the Royal Society of Chemistry, "a tremendous achievement in view of the fierce competition," wrote a British chemist.

Much admired as a lecturer by students and colleagues, Chisholm has shown a special concern for teaching undergraduates. For example, he designed and organized an event sponsored by the American Chemical Society—"A Discussion Day on the Teaching of Inorganic Chemistry at the Undergraduate Level"—that was attended by 50 participants from many colleges.

Gary Hieftje is an outstanding technical expert in a field dominated by outstanding technical experts. What has set him apart from other analytical chemists and made him an international leader in his field is a different kind of excellence. "We remember with special fondness teachers who 'taught us how to think.' Like all of his students and many more of his professional colleagues, it is a lesson of that kind that I have learned from Gary," wrote a fellow member of the Indiana University chemistry faculty who is *not* one of Hieftje's former students. "He explains tirelessly and articulates effectively the deepest principle of analytical chemistry: chemical measurements are made not because someone cares about the result itself, but because some specific—often nonchemical—information is sought. The goal is to improve the fidelity of the connection between the measurement and the information truly sought, not simply to come up with an unassailable number."

A colleague at another institution described his observations of Hieftje at an

earlier time: "I met Professor Hieftje shortly after he began to teach at Indiana University. At this time he had just completed his formal education and had very little experience. I hired him as a consultant to the Lawrence Livermore National Laboratory, where he helped in the motivation of several older senior scientists who were becoming increasingly nonproductive, and the redirection of their efforts. In most cases he gradually became the de facto leader."

Winner of four of the five major national awards in analytical chemistry, Hieftje was among the first to use computers to control instruments in chemical analysis and to use lasers as analytical tools. The technique for background correction of measurements that he invented last year is expected by his colleagues to revolutionize the way analytical atomic spectroscopy is done.

"Hieftje's work deals with atomic spectroscopy, the general technique for instrumental measurement of the abundances of chemical elements in any material. As a result, it is relevant to the work of nearly anyone who deals with chemistry in any way, from medicine and biology to physics, geology and engineering. Its practitioners are extraordinarily numerous," wrote another Indiana University chemistry professor. "By attacking systematically a broad range of problems, Hieftje has, in a compelling way, called attention to the strength and success of his approach. Many are seeking to emulate it, and it is fair to say that he has changed the nature of research in atomic spectroscopy."

'86 Research Expo scheduled for April

The 1986 Indiana University Research EXPO is scheduled for April 23-24, and alumni are encouraged to attend. The Research EXPO is an annual event sponsored by the Office of Research and Graduate Development to encourage an exchange of ideas between university and industrial scientists. Dr. Dennis G. Peters is coordinating the chemistry department's participation in this year's EXPO, and further information may be obtained by calling him at (812) 335-2761.

FROM THE CHAIR

As you no doubt know, our goal since the Program Review of 1979 has been to elevate ourselves from a national ranking of between 15 and 20 to become one of the ten best chemistry departments in the United States by 1990. In most respects we are now very close to that goal. Currently we rank *second* in the number of chemistry bachelor degrees awarded, and *sixth* in the number of PhDs graduated annually. We rank eighth nationally in the extent of outside funding for research; this is an important quality indicator because outside funding for basic research is tight, and all proposals are subject to peer review.

We are presently constrained by space limitations, but fortunately we will have some relief in the future when the recently authorized \$18 million addition to our building is completed. The architectural plans are finished, and we hope to break ground early in May. The completion of the addition and remodeling should put our physical facilities, now rated in the distinctly marginal category, on a par with the best in the country. Our two medium-sized lecture rooms were refurbished this summer, and a major remodeling of our large lecture hall is planned for next year.

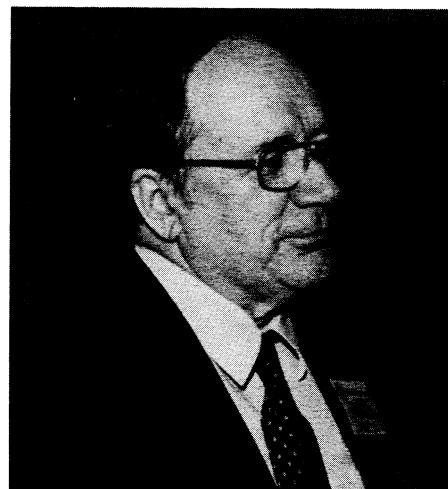
We are very fortunate in having developed strong instrumental support for our research activities, and an especially dedicated and well-qualified technical staff to maintain and supervise the use of our major instruments. NSF and NIH grants for the purchase of a new

high-field NMR have recently been received. Professors Allerhand, Grieco, Magnus, and Williams are scheduled to be the principal users.

Our major goal for the next few years in *curriculum* development relates to our general (freshman) chemistry instruction. We have elevated Steve Russo, who had an appointment as associate director of general chemistry, to a tenure-track position as assistant professor of chemical education, with primary responsibility for a) chemistry instruction to nonscience majors and b) developing and organizing a chemistry study hall and learning resources center. Rupert Wentworth, as general chemistry coordinator, will be primarily responsible for freshman chemistry instruction for science majors.

Our faculty continue to achieve honors and awards from their peers in chemistry and the University. Philip Magnus was elected a Fellow of the Royal Society (Great Britain). Gary Hieftje and Malcolm Chisholm were promoted to distinguished professor rank. Professor Parmenter received an Alexander von Humboldt Award to pursue collaborative research with Professor Ernest Schlag at the Technische Universität in Munich, Germany. Malcolm Chisholm received a Guggenheim Fellowship to do research in organometallic cluster chemistry in Bloomington and Cambridge, England. Paul Grieco was named Earl Blough Professor of Chemistry.

Our enrollments at the undergraduate level have continued to increase and



V.J. Shiner, Jr.

are now about 24% above the levels of 1980. Graduate enrollments remain near 200; we expect this number to increase slightly in future years.

Industries that provided graduate fellowship support to the department in 1984-85 include Berlex, Dow Chemical, General Electric, International Minerals and Chemicals, Lubrizol, Monsanto, Procter & Gamble, and Union Carbide. The Du Pont Company more than doubled their Science and Engineering grant for 1985, providing us with a grant for new faculty in addition to the funds they have regularly provided for the Chemistry Distinguished Lecture Series. These funds are crucial to a well-rounded graduate program, and we are pleased to acknowledge the generous support of our friends and colleagues in industry.

The Frank T. Gucker Memorial Lecture was presented last year by James L. Kinsey of the Massachusetts Institute of Technology, whose topic was "Spectroscopy of Transition States: Photoemission During Photodissociation." The 1986 Gucker Lecture is scheduled for Thursday, March 27, and the speaker will be Professor Benjamin Widom from Cornell University.

The past year was a busy and rewarding one for us in which we saw a number of long-term projects come to fruition. Exciting developments will be occurring here in the coming year, and I hope that many of our alumni and friends will have a chance to visit the department, renew acquaintances, and share in the excitement.

V.J. Shiner, Jr.



The design phase of the \$17.9 million chemistry building addition has been completed by architects Harley Ellington Pierce Yee Associates. Contracts for construction will be awarded in April with the official groundbreaking taking place shortly thereafter. The above architectural sketch shows the southeast corner of the addition, which will line up diagonally with the entrance of the recently completed Jordan Hall addition.

Faculty news

(Lynne L. Merritt, Jr.)

Russell Bonham spent January and February 1985 as a visiting professor in the Department of Chemistry at the University of Konstanz, West Germany, and April and May as a visiting professor in the Department of Physics at the University of Texas, Austin.

Kenneth Busch attended the spring meeting of the Association of Official Analytical Chemists in Dallas, TX in April. The AOAC is one of the most important semi-official agencies involved in setting standards and protocols for analytical procedures. He also attended the annual meeting of the American Society for Mass Spectrometry at San Diego in June, the International Mass Spectrometry Conference at Swansea, UK, in September, the International SIMS (Secondary Ion Mass Spectrometry) Conference in Washington, DC in October, and MUACC (Midwest Universities Analytical Chemistry Conference) which met in Iowa City in October.

Ernest E. Campaigne has been elected president of the Indiana Academy of Science for 1986. He was co-program chair of the Academy's Annual Meeting held in Bloomington, November 1985. He gave his famous lecture, "Drugs and the Mind," to the Sigma Xi society of Middle Tennessee University, Murfreesboro, TN in March 1985. He has given this lecture to ACS sections, Sigma Xi, colleges, and Kiwanis clubs a total of 76 times since 1970. When not serving the Indiana Academy of Science or lecturing, he found time to attend the Miami ACS meeting in April and, later, the International Heterocyclic Symposium at Waterloo, Ontario in August. He also visited Bill LeSuer at his cottage on the Trent River in eastern Ontario.

Kenneth G. Caulton presented two papers at the 12th International Conference on Organometallic Chemistry in Vienna, September 1985. He has also lectured at the universities of Cincinnati, Illinois, Michigan, Yale University, and Carleton College, and several corporations involved in catalysis research. He was elected councilor to the ACS by the Division of Inorganic Chemistry. His research group continues collaborations with university groups in Groningen, Netherlands and Aachen, West Germany.

Malcolm Chisholm was one of two chemistry professors elevated to the rank of Distinguished Professor; Gary Hieftje was the other. See the article about these two elsewhere in this *Newsletter*. During the year, Chisholm was active in giving seminars at university and industrial laboratories and was co-

chair of an NSF-DFG sponsored US-Germany Workshop on "Fundamental Reactions at Dinuclear and Polynuclear Metals Complexes" which was held in Konigstein-Taunus Germany, in September. Chisholm was also elected chair-elect of the Division of Inorganic Chemistry, ACS, for 1986 and currently holds a Guggenheim Fellowship for 1985-86. The first Chester Davis Fellow, Dr. William H. Buhro, is presently working in Chisholm's laboratory. Dr. Buhro completed his PhD at UCLA under the direction of Prof. John Gladysz. Buhro is interested in the preparation of new materials and the modelling of solid state phenomena.

Jack Crandall received a Fulbright Research Award which permitted him to spend the 1985-86 academic year on sabbatical leave at the Universite P. et M. Curie in the Laboratoire de Chemie Organique de Synthese, directed by Prof. Jacques Levisalles. He is working with Prof. J. P. Genet, an expert on organopalladium chemistry.

Ernest Davidson spent two months in Israel (April and May) as a visiting professor at the Technion where he gave lectures concerning the charge and spin densities of small molecules. During the summer, Prof. Davidson organized a joint US-Japan symposium on the Bloomington campus on the subject of "Electronic Theories of Chemical Reactivities." This conference was attended by 12 Japanese scientists and an equal number of distinguished American theoreticians.

Harry G. Day continued to have some professional responsibilities outside Indiana. Included in these is the chair of the E. V. McCollum Commemorative Committee of Johns Hopkins University. The Committee's principle responsibility is the E. V. McCollum International Lectureship in Nutrition. In 1985 the Commemorative Lecture was given by the noted British scientist, Elsie M. Widdowson. This was the keynote address at the International Congress of Nutrition at Brighton, UK. Dr. Day presided at the meeting and introduced the speaker. Dr. Day is in his office nearly every day and continues to research the history of chemistry at Indiana University and acts as the center of contact with departmental alumni.

Paul A. Grieco was visiting professor at the University of Rome, November 2-16, 1985 and has given seminars at various universities and pharmaceutical companies during the year.

Ruth S. Gurd and her students continue working to figure out how peptide mediators operate at many levels of investigation. They learn more each



Paul Grieco

day but still find many questions unanswered. Her medical/graduate student teaching continues much as always except that increasingly she can include some of her ex-students' results in lectures.

Frank R. N. Gurd is, believe it or not, planning for retirement soon. He enjoys hearing from former students and noting how their careers have diverged. Frank is now diverging also. He plans to devote more time to writing, hoping to encourage people to think for themselves and also to focus on ethical dilemmas which face everyone in scientific and educational endeavors.

Gary M. Hieftje was named a Distinguished Professor of Chemistry at Founders Day last spring. A separate article in this *Newsletter* recognizes this achievement. He also received the Chemical Instrumentation Award (American Chemical Society) at the National ACS Meeting, Chicago, September 1985. Dr. Hieftje is the chair of the Analytical Division of the American Chemical Society for one year (effective October 1985). He has been selected for the Pittsburgh Analytical Chemistry Award, to be presented in March 1986 and also the Theophilus Redwood Award (Royal Society of Chemistry), to be presented in April 1986. During 1985 Dr. Hieftje had 21 papers published in journals. Fifteen others were submitted or accepted. He presented 28 invited talks or papers at professional meetings, colloquia, and seminars. He was a keynote speaker at the 1st European Winter Conference on Plasma Spectrochemistry, Leysin, Switzerland; a keynote speaker at the ARAAS Conference, Sheffield, England; a seminar speaker at the University of Strathclyde, Glasgow, Scotland; a plenary lecturer at the 2nd International Symposium on Analytical Chemistry in the Exploration, Mining, and Processing of Materials, Pretoria, South Africa; a seminar speaker at the University of Durban, Pietermaritzburg, South Africa; and a seminar speaker at the University of Cape Town, Cape Town, South Africa.



Milos Novotny

Philip Magnus was elected a Fellow of the Royal Society on March 21, 1985. This is one of the highest honors that can come to a chemist. His colleagues have stated, "We are very proud of this honor and achievement [of Dr. Magnus] and feel that perhaps any other 'goings on' of the year are not worthy of mention beside it."

Lynne L. Merritt, Jr. continues to be active in many ways. He is teaching "Instrumental Methods of Analysis" this spring at the IU Northwest campus in Gary and has agreed to teach analytical chemistry there both semesters of 1986-87. Two senior research students are also working with him there. This gives him an opportunity to try out some of the material now being prepared for the 7th edition of the Willard, Merritt, Dean, and Settle text which should appear in early 1987. Dr. Merritt attended the 85th birthday celebration and symposium in honor of Linus Pauling, February 28, 1986 at Caltech, and the fall 1985 ACS meeting in Chicago. During the spring of 1985 he served as acting dean for academic affairs at IUNW.

Milos Novotny is the recipient of the ACS Award in Chromatography sponsored by Supelco, Inc., and will receive the award at the ACS meeting at New York in April 1986. He has been working toward the development of miniaturized liquid chromatography methods since the mid-1970s. He has over 180 journal publications and two books to his credit, and serves on the editorial boards of the *Journal of Chromatography/Biomedical Applications*, *Chromatographia*, *Journal of High Resolution Chromatography*, *Talanta*, and *Analytical Letters*. Milos and S. P. Cram of Varian Instruments have taught a widely-acclaimed ACS short course on "Capillary Gas Chromatography" since 1977. This year the two-day course was given at the Pittsburgh Conference on Analytical Chemistry at New Orleans, February 1985; the National Institute of Energy Research, Bartlesville, OK, April; ACS meetings in Miami Beach (April)

and Chicago (Sept.); the Cincinnati ACS section (Sept.); and the Delaware Valley Chromatography Forum at Philadelphia in October. He also gave a five-day course on "Basic Gas Chromatography" for the Finnegan Institute, Cincinnati, OH, in March and August. Besides all of the above activities, Novotny finds time to lecture at the departments of chemistry of the University of California, Berkeley, University of New Orleans, Pennsylvania State University, and Texas A&M University; the IBM Corporation and Hassle Pharmaceutical Co., Sweden; the ACS meetings in Miami Beach and Chicago; Symposia in Riva del Garda, Italy, Urbino, Italy, Oslo, Norway, Edinburgh, UK; Ohio Valley Chromatography Conference and the Northeast Chromatography Discussion Group, Buffalo. In November Novotny made a lecture tour in Russia (Yalta, Moscow, and Leningrad) at the invitation of the USSR Academy of Sciences. He also served as an external examiner of a doctoral thesis at the Department of Analytical Chemistry, University of Goteborg, Sweden in December.

Dennis Peters presented a poster paper at the Gordon Research Conference on Electrochemistry in Santa Barbara, CA in January 1985, and presented another paper at the Pittsburgh Conference held in New Orleans in February 1985. He attended the 167th meeting of the Electrochemical Society held in Toronto, May 1985 and presented a paper there. He also attended the Midwest Universities Analytical Chemistry Conference at the University of Iowa, October 1985. In January 1986 he attended a symposium on ultramicroelectrodes at the University of Utah. In April 1986 he will present the 24th McGregory Lecture at Colgate University. Dr. Peters served as the Chemistry Section Chair of the Indiana Academy of Science meeting held at Indiana University, Bloomington, IN, in November 1985.

V. Jack Shiner, Jr. received a Fulbright Distinguished Professor Award to lecture in Yugoslavia for four weeks last fall. Dr. Shiner presented lectures on kinetic isotope effects and their application to the study of reaction mechanisms at the University of Zagreb, and he worked on research projects which were already under way, with several faculty members there. Shiner also was named a Fellow of the American Association for the Advancement of Science last year.

Gary Wiggins' doctoral thesis was one of the four selected by a juried competition to be presented at the fall 1985 meeting of the American Society for Information Science in Las Vegas, NV. In January 1986 Gary began a three-year term as chair of the ACS Division of Chemical Information Education Com-

mittee. He continues to edit the *Special Libraries Association Chemistry Division Newsletter*. In June 1985 Gary spoke to the ACS Great Lakes Regional Meeting on "Teaching the Use of CAS ONLINE at Indiana University."

David Williams continues as an Alfred P. Sloan Fellow through 1987. His active grants total over \$200,000. Since the last *Newsletter* he has been invited to give lectures at the Gordon Research Conference on Natural Products, the International Congress of Heterocyclic Chemistry, Canada, the University of Rochester, the Pennwalt Corporation, and to visit the Upjohn Company three times. He was invited to submit two papers to Tetrahedron's "Symposia-in-Print." Dr. Williams attended and presented a paper at the ACS meeting in Miami Beach, spring 1985. Dr. Williams has recently developed a research plan to explore the challenging areas of alkaloid chemistry, particularly natural products which are highly active as insecticides.

New Faculty

We were very pleased to welcome two new faculty members to the department during the past year: **Dr. Jeffrey M. Stryker**, an organic chemist, and **Dr. Charles T. Campbell**, an analytical chemist.

Dr. Stryker came to Indiana University as an assistant professor of chemistry last fall. He is a Bloomington native who received his Bachelor's degree from Harvard University in 1978 and his PhD from Columbia University in 1983. He was a National Institutes of Health Postdoctoral Fellow at the University of California at Berkeley from 1983 to 1985. Dr. Stryker's research interests are in the area of transition metal organometallic chemistry, with an emphasis on applications to current problems in synthetic organic methodology.

Dr. Campbell joined the faculty in January as an associate professor of chemistry. He comes to us from Los Alamos National Laboratory where he has been a research scientist since 1981. He was born in Beaumont, Texas and obtained his Bachelor's degree and PhD from the University of Texas at Austin. He was a Humboldt Postdoctoral Fellow at the University of Munich in West Germany from 1979 to 1981. Dr. Campbell is working on developing ultrahigh vacuum surface analytical methods to understand surface chemical processes that occur at higher pressures.

Graduate news

(P. Stapleton)

Professor Paul A. Grieco once again served as graduate advisor and chair of admissions during the 1984-85 academic year. Serving with him on the Graduate Standards Committee were professors Chisholm (inorganic), Crandall (organic), Gurd (biochemistry), Parmenter (physical), and Wightman (analytical).

Professors Busch (analytical), Christou (inorganic), Lewin (biochemistry), Reilly (physical), and Williams (organic) reviewed the hundreds of applications submitted for graduate work in chemistry. Forty-two students entered the department in the fall of 1985.

FELLOWSHIP HOLDERS: We are pleased to announce that the graduate program in the department has a new graduate fellowship commencing in 1986-87 from the AMOCO Foundation. The AMOCO fellowship, along with the General Electric Foundation, Lubrizol, Monsanto, and Procter and Gamble fellowships will be awarded to advanced graduate students. The department is now able to award five industrial fellowships to upper-level graduate students.

Nancy L. Sear was the recipient of a Berlex Fellowship for 1984-85. She completed her PhD thesis in September 1985. Her thesis, "Studies Directed Towards the Synthesis of the Indole Alkaloids," was done under the direction of Prof. Philip D. Magnus. Sear received her undergraduate degree from Iowa State University. She accepted a postdoctoral position with Prof. Michael Jung at the University of California, Los Angeles.

The General Electric Fellowship for the academic year 1984-85 was awarded to **Daniel L. Zabrowski**, who is doing his research in the lab of Prof. Paul A. Grieco. His project involves "Studies Directed Toward the Total Synthesis of Withanolide." Zabrowski received his BA degree from St. Louis University.

Timothy H. Lemmen, who received a BS degree from the University of Wisconsin, was the 1984-85 recipient of the Lubrizol Fellowship. He will be completing his PhD thesis this spring under the direction of Prof. Kenneth G. Caulton on synthesis and applications of soluble copper hydrides.

The Monsanto Fellowship was awarded to **Leonard J. Galante**. Mr. Galante is a student of Prof. Gary M. Hieftje and came to Indiana University with a BA from the University of Pittsburgh. Mr. Galante's research involves a relatively new technique called ion chromatography.

David B. Moss, a student of Prof. Charles S. Parmenter, received the

Procter and Gamble Fellowship for the academic year 1984-85. Mr. Moss is a physical chemist doing research on the vibrational energy flow in electronically excited polyatomic molecules.

Lawrence M. Principe, a second-year graduate student who received his undergraduate degree from the University of Delaware, is a holder of a National Science Foundation Fellowship. He is doing research in the lab of Prof. Philip D. Magnus.

Other fellowship winners were **Marcia L. Meredith**, a Shenago Corporation Fellowship; **Michael J. Panigot** and **Dale L. Rieger**, Union Carbide Fellowships; **David E. Honigs**, Division of Analytical Chemistry of American Chemical Society Summer Fellowship; **George H. Vickers**, Upjohn Summer Fellowship; **Paul M. Kovach**, Edward G. Weston Summer Fellowship Award of the Electrochemical Society, Inc.; **David L. Clark** and **Bryan W. Eichhorn**, Standard Oil (Ohio) Fellowships; **Alfred G. Childers** and **Jimmie L. Moore**, Upjohn Fellowships; **Edwin M. Horwitz**, Indiana University School of Medicine Fellowship for Combined Degree Students; **Jennifer C. Gluckman**, American Chemical Society Fellowship.

Graduate School Fellowships were awarded to the following: **Patricia M. Ahrweiler**, **Heidi E. Dixon**, **Ignacio Faus**, **James Hoover**, **Bryan D. James**, **Donna K. Mahnke**, **Leslie J. May**, **Curtis A. Monnig**, **David T. Parker**, **Peter J. Ramberg**, **Lorraine R. Stepan**, and **John B. Vincent**. **Carey M. Cheri** received a Minority Graduate School Fellowship. **Judith A. Edling**, **Leslie J. May**, **Ravi P. Nargund**, and **Leslie A. Robinson** received a G*POPs (Graduate and Professional Opportunities Program Fellowships).

Foreign students with fellowships were: **Gerhard P. Puschel**, Overseas Exchange Fellowship; **Ali Bahsas**, **Rudolf R. Jaffe**, **Adriano Parisi**, and **Gabriel E. Salazar**, Venezuelan Fellowships; and **Paul Galatsis**, Natural Sciences and Engineering Research Council (Canada) Post-Graduate Fellowship.

ANNUAL AWARDS: At the Chemistry Department Honors Banquet in April 1985 the following students received the DuPont Associate Instructor Awards for excellence in teaching: **Kirk W. Butz**, **Joseph D'Antuono III**, **James F. Hoover**, **Theodore N. Iliadis**, **Eric G. Lundquist**, and **Matthew L. Vincent**.

The Chernin Award, established in 1964 to honor the memory of Robert Chernin who passed away in 1963 after completing his thesis in 1961, was awarded to **John S. Bashkin** for outstanding C500 research.

The William Nebergall Memorial Award for outstanding graduate research in inorganic chemistry was awarded to **David L. Clark**. Clark, who is the seventh recipient of this award, is doing research with Prof. Malcolm H. Chisholm.

Edwin M. Horwitz is the second recipient of the Henry R. Mahler Memorial Award given to an advanced student beyond the fifth semester examination who has done outstanding thesis research in biochemistry. Mr. Horwitz is a combined MD/PhD candidate who finished his PhD under the direction of Prof. Ruth S. Gurd.

The first Reilley-Upjohn Award for a third-year student who has demonstrated potential for outstanding research ability and accomplishments in analytical chemistry was awarded to **Werner G. Kuhr**. Mr. Kuhr is completing his PhD thesis with Prof. Gary M. Hieftje. The Reilley-Upjohn Award is sponsored by the Control Division, The Upjohn Company, to honor the contributions of Professor Charles N. Reilley to the analytical chemistry field.

RECENT PHDS: PhD recipients for the 1984-85 academic year include the following: **Hamzeh Abdel-Halim** (physical, G. E. Ewing) accepted a postdoc at The Johns Hopkins University, Baltimore, MD; **Mark S. Alasandro** (analytical, M. V. Novotny) took a job with E. I. du Pont de Nemours & Co., Wilmington, DE; **T. P. Ananthanarayan** (organic, P. D. Magnus) went to the University of Chicago as a postdoc.

Charles W. Benner (organic, J. J. Gajewski) is a research chemist with E. I. du Pont de Nemours & Co. in Camden, SC; **Marion A. Ceruzzi** (biochemistry, J. P. Richardson) is a postdoctoral fellow at the Roche Institute for Molecular Biology in Nutley, NJ; **Jean M. Czuczwa** (analytical, R. A. Hites) is doing research at EAWAG, Durbdorf, Switzerland.

Jahangir Emrani (organic, J. J. Gajewski) is a postdoc at Kansas State University, Manhattan; **Sergio E. Ferrino** (organic, P. A. Grieco) returned to Mexico and has an academic position at Instituto Politecnico Nacional; **Mark R. Hermann** (chemical physics, P. W. Langhoff) is at the University of California, Berkeley, as a postdoc; **David E. Honigs** (analytical, G. M. Hieftje) is an assistant professor at the University of Washington, Seattle.

Naseema M. Hoosein (biochemistry, R. S. Gurd) took a postdoc position in the Department of Pharmacology, Emory University, Atlanta, GA; **Jose L. Jimenez** (organic, J. J. Gajewski) is an assistant professor at the Universidad Central de Venezuela, Caracas; **Robert K. Jones** (chemical physics, R. A. Bonham) is a research associate with the National Bureau of Standards,

Gaithersburg, MD.

Steven R. King (biochemistry, J. P. Richardson) accepted a postdoc at McArdle Lab for Cancer Research, University of Wisconsin, Madison; **Jeffrey P. Kiplinger** (organic, J. R. Bartmess) went with the University of North Carolina, Chapel Hill as a postdoc; **David G. Maskalick** (biochemistry, F. R. N. Gurd) is a senior biochemist with Eli Lilly, Indianapolis.

Mary L. Patterson (analytical, C. S. Allen) is a postdoctoral fellow at Purdue University, West Lafayette; **Edward J. Plute** (chemical physics, S. A. Hagstrom) is a computational chemist with KHMN Nuclear in Colorado Springs, CO; **James H. Raymer** (analytical, M. V. Novotny) is a research scientist at the Research Triangle Institute,

Analytical Services, Research Triangle Park, NC.

Ruhangiz Rezaaiyaan (analytical, G. M. Hieftje) is a lecturer at Luther College, Decorah, IA; **Larry F. Rhodes** (inorganic, K. G. Caulton) is in Zurich, Switzerland at ETH-Zentrum as a postdoc; **David W. Scupham** (biochemistry, J. A. K. Harmony) is at the University of Cincinnati, OH, as a postdoc.

Stephen R. Springston (analytical, M. V. Novotny) took a postdoc position at the University of Utah, Salt Lake City; **Robert J. Tatz** (inorganic, M. H. Chisholm) is at The Ohio State University, Columbus as a postdoc; **Craig A. Wilson** (organic, L. K. Montgomery) is a postdoc at Northwestern University, Evanston, IL; **Robert E. Zelle** (organic,

P. A. Grieco) is at Yale University, New Haven, CT as a postdoc.

MS RECIPIENTS: **Kathleen A. Cornely** (R. S. Gurd) teaching at IUE, Richmond, IN; **Jose M. Goncalves** (J. K. Kochi) returned to Venezuela; **Mansoor A. Hoosein** (A. S. Lewin) Georgia State University; **Edward A. Jurczak** (L. K. Montgomery) PPG Industries; **Nelsen L. Lentz** (P. A. Grieco) Merrell Dow Pharmaceuticals, Inc.; **Kenneth J. Melda** (M. V. Novotny) Combustion Engineering; **Maher Mualla** (J. K. Crandall) University of Cincinnati; **Susan H. Muench** (L. J. Todd); **Yongnam Pak** (G. M. Hieftje) University of Missouri; **JoAnne M. Rubin** (F. R. N. Gurd); **Mei Wan Anna Yuen** (G. M. Hieftje).

Undergraduate news

(W. T. Jenkins, H. W. Willett)

During the 1984-85 school year Professor W. Terry Jenkins served as coordinator of undergraduate studies, Holly Willett as academic counselor, and Esther L. Naylor as office secretary. Chemistry enrollments have moderated. Second semester of 1984-85 the chemistry department had 557 undergraduate chemistry majors (compared to 583 second semester of 1983-84). We graduated a total of 149 students (90 with BA degrees - down three from 1983 - and 59 with BS degrees (18 were BS chemistry - the same as 1983, and 41 were BS biochemistry - up 17 from 1983).

Twenty-three students participated in our Chemistry Honors Program during 1984-85, and 36 students engaged in C409 Chemical Research (an undergraduate research program entailing up to 10 hours of credit and requiring a thesis). Forty-seven graduating seniors went on to medical school, seven to dental school, 13 to graduate school in chemistry, five to graduate school in other science related fields, 10 to MBA programs, and 39 to industry.

Ball Corporation, Dow Chemical Company, US Drug Enforcement Agency, General Motors Corporation, Inland Steel, Mead Johnson Company, the National Bureau of Standards, and the US Naval Weapons Support Center participated in the Chemistry Cooperative Education Program.

The Annual Chemistry Honors Banquet was held on April 4, 1985. The following undergraduate students were honored:

The Outstanding Senior Awards went to **Arun Timothy Royappa** and **Robert O. Stuart II**. **James A. Krom**

was awarded the 1985-86 Courson-Greeves Prize, and **David A. Wininger**, the Frederic C. Schmidt Award. **Timothy A. Sutton** received the Joseph B. Schwartzkopf Award, **David P. Martin** received an award from the Southern Indiana Local ACS section, and **Timothy K. Starn** received a special award for unusual creativity in undergraduate research. Merck Indexes were presented to **Paul E. Floreancig**, **Jeffrey S. Mormol**, **Seiichi Noda**, and **Charles J. Paget III**.

The R. J. Grim Scholarship recipients for 1984-85 were **James A. Krom**, **David P. Martin**, **Jeffrey S. Mormol**, **Kara M. Newby**, **Charles J. Paget III**, **Katherine L. Patterson**, **James M. Platis**, **A. Timothy Royappa**, **Andrew M. Scharenberg**, **David E. Schleinkofer**, **Robert O. Stuart II**, **Timothy A. Sutton**, **Joseph M. Szwed**, **Matthew S. Williams**, and **David A. Wininger**.

Ira E. Lee Summer Research Scholarships for full-time summer research for 1985 were awarded to **Katy M. Georgiadis**, **James A. Krom**, **Pamela S. Pavacik**, **A. Timothy Royappa**, and **Edward T. Ryan**. Harry G. Day Summer Research Scholarships for full-time research for 1985 were awarded to **Tracy L. Black**, **Tanya L. Curtis**, **Paul E. Floreancig**, **Kwai-Wah Leong**, **William G. Morice**, **Seiichi Noda**, **Charles J. Paget III**, **Bruce W. Peavler**, and **Heather K. Webb**.

Harry G. Day Academic-Year Scholarships for 1985-86 were awarded to **Paul E. Floreancig**, **James A. Krom**, **William G. Morice**, **Pamela S. Pavacik**, and **Bruce W. Peavler**.

The Harry G. Day Summer Research and Academic Year Scholarships were

made possible by a generous gift from Chester Davis (BS'44). Most recipients of these awards participate in undergraduate research projects which not only develop their chemistry talents but also provide invaluable experience for those entering industry or graduate school.

Six students were recognized as superior in various freshman chemistry courses, and received book certificates. Thirty-eight chemistry majors were elected to membership in Phi Beta Kappa. Twenty-eight seniors, 30 juniors, and 37 sophomore chemistry majors were on the Departmental Honor Rolls.

In 1984-85 the Chemistry Placement Office hosted 30 companies. These companies conducted a total of 462 interviews. The companies included American Cyanamid, AMOCO, Atlantic Richfield (ARCO), Ball Corporation, Berlex Laboratories, Bristol Myers & Co., Carstab Div. of Morton Thiokol, Chemical Abstracts, Dow Chemical, Du Pont, Eli Lilly, General Electric, Great Lakes Chemical Co., 3 M Center, Merck, Monsanto, NALCO, National Starch & Chem. Corp., Occidental, PPG Industries, Pennzoil, Pfizer, Procter & Gamble Co., Reilly Tar & Chemical Co., Rohm & Haas, SCM, Travenol Labs, Upjohn, Union Carbide, and Warner Lambert.

Thirty companies have interviewed through the Chemistry Placement Office during the 1985-86 recruitment season. Holly Willett continued as Chemistry Placement Office Manager.

News of alumni

(H. G. Day and E. M. Greene)

SOCIAL HOURS

Miami Beach 3 May 1985

George Bodner, PhD'72, Purdue; James, AB'73, and Sue Copp, Rockville, IN; Robert Degeilh, PhD'56, Port-Marly, France; Paul Dorain, PhD'54, South Hadley, MA; Linneas, PhD'61, and Mrs. Dorman, from Midland, MI; George Ham, PhD'44, Briarcliff Manor, NY; Jeffrey Joens, PhD'84, from Florida International University; Ted Logan, AB'53, from Procter and Gamble, Cincinnati; Rick Locker, PhD'82, from Towson, MD; Joe Leonelli, PhD'82, from Aberdeen Proving Ground, MD; Rod Moss, PhD'51, from Midland; Kevin, PhD'81, and Mrs. Rollick from Munroe Falls, OH; Meredith Sparks, MA'28, from Coral Gables; J. Tai, PhD'63, from Midland; David, PhD'68, and Renee Templer from Miami; Jim Wolfe, PhD'63, from VaTech in Blacksburg, VA; Jay Young, BS'39, Silver Spring, MD; and Jeffrey Zubkowski, PhD'83, from Toronto, Canada. From the faculty there were Dr. and Mrs. Campaigne, Dr. and Mrs. Carmack, and V. J. Shiner, Jr.

Chicago, 11 September 1985

John E. Burks, Jr., PhD'79, from West Lafayette; David Dolson, PhD'81, from Warren, MI; Don Gaines, PhD'63, Madison, WI; Frank Guthrie, PhD'62, Rose Hulman Inst. Tech., Terre Haute; Henry Hellman, BS'43, retired from New York University; Robert Huffman, PhD'64, Flagstaff, AZ; Joe, PhD'53 and Mary Leal from Maplewood, NJ; Dana Mayo, PhD'50, Bowdoin College, Brunswick, ME; Wendell Meyer, PhD'62, from Midland; Kenneth Moloy, BS'80, from Charleston, WV; Steve Neuman, BS'74, from Rochester, NY; Allen Siedle, PhD'73, 3 M in St. Paul; Hiram Spannuth, AB'32, from Chicago; Dennis Wesolowski, BS'66, from Whiting, IN; and Andrew Zweig, AB'78, from Streamwood, IL. Marvin and Joan Carmack, and H. G. Day were present from the faculty of the department.

VISITORS TO THE DEPARTMENT

This past year the following signed the guest book in the Departmental Alumni Office, and talked to H. G. Day and/or Elizabeth Greene: Richard Ebeling, MAT'62, from West Aurora High School in Aurora, IL; Walt Farmer, BS'61, from Riverside, CA where he is teaching at the University of California; Bob Duff, PhD'61, from Cleveland Heights, OH; Richard B. Feiertag, AB'41, Sacramento, CA; Loran S. O'Bannon, AB'32, from Lafay-

The Geogriadis family has four members with degrees in chemistry from IU, with a fifth expected this year. Pictured above are: (insert) Minas, PhD'63; back row, Greg, BS'80; Tax, BS'83; Minas; front row, Katy, senior, Mrs. Vasso Geogriadis; Rosy, BS'82



ette, IN; Raymond Boucher, PhD'50, from Naples, FL; Gary Caldwell, PhD'82, Philadelphia, PA; and Jim Thrasher, AB'74, from New Providence, NJ.

Paul Douglas Armstrong, BS'63, is now associate professor of chemistry at Olivet Nazarene College, Kankakee, IL.

David K. Barnes, PhD'47, and Martha have moved to Kennett Square, PA, which is a little farther from his office. When he is away from DuPont he continues to serve actively on the Board of Olivet College. Also, he is an officer on the Board of the Wilmington Medical Center.

Ram Dev Bedi, PhD'60, his wife Uma and their two sons have worked resourcefully to make their small 2V chemical business prosper. It is in the Detroit area, and it is dependent on the American automobile industry. The sons as well as the father are chemists.

William H. Bell, AM'18, has generously authorized a change in the Bell loan fund to an undergraduate award, the William H. Bell Award in Chemistry. In 1920 Mr. Bell and his close friend A. B. Coleman formed the Coleman and Bell Company to manufacture biological stains. Before Mrs. Bell died in 1984 the couple moved to Mississippi to live near their daughter and her family. Mr. Bell remains loyal to IU and his native Hoosierland.

Walter S. Beanblossom, AB'29, has lived near Corydon, IN since he retired in 1967. On the 40th Anniversary of Hiroshima the *Indianapolis Star* published an extensive interview with him concerning his employment with the Hooker Chemical Co. in Niagara Falls following his graduation from IU. The focus was on his involvement in the concentration of uranium 235 and his thoughts on the operation of the Manhattan Project and the meaning of Hiroshima.

Sam Berkowitz, MS'63, and family have moved to the area of Jacksonville,

FL where he now has a position with Sylvachem Corporation, a subsidiary of the SCM Corporation. A major product of Sylvachem Corporation is commercial adhesives. The daughter Leah is a graduate student in speech and hearing at IU.

Phyllis (Pat) Rutan Boucher, MS'46, was president of the New England Women's Golf Association in 1985. In March she played golf with others in Portugal, but toward Christmas she and the "kids" were going back to Cozumal, Mexico. Will there be something about chemistry next year?

George M. Bodner, PhD'72, was general chair for the 19th Great Lakes Regional Meeting of the ACS held at Purdue in June 1985. Also, he chaired a symposium on research in chemical education. Since 1977 he has been a member of the chemical education faculty at Purdue.

Rex Bradt, AB'30, of Warsaw, IN was cited in *C&EN* (p. 76, 27 May 85) in a discussion of reasons hot-water pipes in houses can freeze before cold-water pipes. His explanation is that hot-water pipes are cleaner than cold because the water hardness and consequent scale have been substantially decreased in the water heater or water softener used. The effects of greater heat exchange, he wrote, "far exceed the freezing point depression of dissolved salts or gases."

Heather Brown, PhD'82, received the Bowman Award from the IU School of Medicine in 1985.

Jacqueline Hyberg Budde AM'49, and Walter M. Budde, MS'47, continue to work at Hormel Institute and Viking Chemical Co., respectively. Most of their family is in Minnesota. They spend some time on their farm near Bemidji and vacation for a brief time near family at Sebring. Does Walt play his violin regularly?

Richard T. Cady, PhD'52, retired from DuPont, teaches some in Adult

Evening schools, and consults for DuPont, but he actively pursues his hobby, astronomy. In this year of Halley he is teaching a short course on this popular topic.

Gary W. Caldwell, PhD'82, is in research work at MacNeil Pharmaceuticals in Philadelphia.

H. F. (Frank) Cheng, PhD'57, has been in radiology and radiobiology at the U of Iowa since leaving IU. Like many Iowans on 1 January he and Margareth were at the Rose Bowl. Their three daughters are doing very well.

Sharon Coolican, PhD'82, is Fellow in Cardiology at the Krannert Institute of Cardiology of the Medical School.

Sankar Datta, PhD'59, has recently established a Research Centre for his company (National Peroxide, Ltd.) in India. His daughter has been admitted to Northwestern for an MS in journalism starting this fall.

Charles H. Davis, BS'60, relinquished his deanship of the Graduate School of Library and Informational Sciences at the University of Illinois, effective August 1985. This was in order to devote more time to teaching and research. Prior to going to Illinois he was dean of the faculty of library science at the University of Alberta, Canada. In 1982 he received the Louise Maxwell award from the alumni association of the IU School of Library and Information Science. He completed a PhD from that school in 1969.

Chester Davis, BS'44, visits the department periodically. He continues to do experiments and think creatively in his laboratory—a part of his home in Kentucky. Watch for other developments in his area of research within a few years. Thanks to him, one postdoctoral visiting scientist and several chemistry majors in the department this year are recipients of support he has given to the department. He is an extraordinarily loyal and effective alumnus.

R. Degeilh, PhD'55, and his singing family near Versailles, France, keep in touch with America. He makes business trips to the US nearly every year.

Gerald E. Doeden, PhD'65, had bypass surgery over two years ago and has retired from chemistry at Ball State U. He and Carolyn seem to be getting along well.

Frank E. Dolian, PhD'33, after many years with the Commercial Solvents Corp. at Stamford, CT, retired in 1974. In 1985 he was recognized, with others, by the ACS for 50 years of membership. Also, the Western Connecticut section of the ACS honored him and four other members of that section. He is now a professional business consultant in chemicals.

Linneaus C. Dorman, PhD'61, received the Dow Chemical Central Research Inventor of the Year Award in

1983. At Midland he has been much involved in ACS and community affairs. This includes service as ACS councillor at different times, president of the Midland Rotary Club, much involvement in NAACP, National Organization of Black Chemists and Chemical Engineers, and participation in other activities. He is an active member of the IU Alumni Association and the Neal-Marshall Club.

Bryce Douglas, post-PhD'53-54, has become a member of the prestigious Advisory Board of the Center for History of Chemistry. He is vice-president, Smith Kline Beckman Corporation.

Melvin Druelinger, BS'62, transferred from Indiana State U to the U of South Colorado (Pueblo) last year.

Robert H. Duff, PhD'61, is the analytical project leader/microscopy in Research Development at the Standard Oil Co. (Ohio). A daughter is a student in the IU School of Music.

Leon Ellenbogen, PhD'54, is associate director of professional pharmaceutical services of Lederle Laboratories and a member of the American Institute of Nutrition. One of his responsibilities is the writing and editing of the monthly *Lederle Nutrition* newsletter, an excellent publication on timely topics.

Richard England, PhD'82, is now a resident in pediatrics at the Duke University School of Medicine in Durham, NC.

Leo R. Fedor, PhD'63, was the recipient of a substantial ACS-PRF research grant in 1985. He is professor of medicinal chemistry at SUNY, Buffalo, NY.

James P. Ferris, PhD'58, is on sabbatical leave from Rensselaer Polytechnic Institute and is at the Swiss Federal Institute of Technology. His studies continue to be focused on primordial organic chemistry and the origin of life on earth.

W. O. Foye, PhD'48, lectured at several pharmacy and medical schools in Japan last summer. He was awarded a gold medal at the University of Tokyo. His textbook, *Medicinal Chemistry*, is in its 4th edition. There are several translations.

Charles E. Frohman, MS'48, retired in January 1986 from the Lafayette Clinic of the Michigan Department of Mental Health. He had been head of biochemistry since 1955. A large dinner was held in his honor. Last summer he had some circulatory surgery and recently expressed the hope that "my new circulatory system works for 65 more years like the last one."

Margaret Garner, PhD'74, is currently affiliated with the Department of Ophthalmology Research at Columbia University College of Physicians and Surgeons in New York.

Minas Georgiadis, PhD'74, and Vasso keep in touch from Greece, where he is professor of chemistry at

the Agricultural University of Athens. Remarkably, their two sons and two daughters have majored in chemistry here, and all have made excellent records. The oldest son, **Gregory**, BS'80, is now a medical intern in Detroit; **Rosina**, BS'82, is at the University of California Berkeley; **Taxiarchis**, BS'83, is at UCLA; and the youngest, **Katy** is a senior here this year.

Jennifer Gluckman, PhD'85, is a postdoctoral worker at the Free University of Amsterdam. This fall she will become an assistant professor of chemistry at the University of Vermont.

Charles J. Guare, PhD'53, and Jane live in Scotia, NY. He remains much involved in teaching chemistry at Union College with understanding of the needs of college students and the continuing advancement of science. Jane is secretary in the school superintendent's office in Schenectady. He is writing some educational software on topics that his experience says need help.

Philip G. Haffley, BS'63, and **Janet Pittman Haffley**, AB'63, have a daughter Janna who was a chemistry participant in the 1985 High School Science Students Institute. A few years ago the oldest son Philip had a chemistry project in the Institute. Janet teaches chemistry at Brebeuf Preparatory School in Indianapolis. Philip is professor of chemistry and assistant dean for academic affairs at the Kokomo campus of IU.

Joseph A. Heppert, who spent the last two and a half years as a visiting lecturer and postdoctoral associate, joined the faculty at the University of Kansas as an assistant professor of inorganic chemistry.

Phil Hidy, PhD'44, and wife Marian continue to live in Terre Haute since his retirement from Commercial Solvents. Their 1985 Christmas letter was realistically adorned by a likeness of their house and landscaped setting, made possible through the magic of Phil's new computer. They recharge their batteries during February in Hawaii.

Hoyt C. Hottel, AB'22, retired professor of chemical engineering at MIT, has been honored in various ways. The Board of Directors of the International Combustion Institute has named the traditional plenary lecture of the Institute the Hottel lecture. Also, several of the Hottel doctoral students have raised a fund to establish a visiting Hottel Lectureship at MIT. The Center for History of Chemistry at the University of Pennsylvania has developed a major program of oral history. The four distinguished interviewees for 1986 include Hoyt C. Hottel. During 1986 he will give several lectures in China.

James W. Jorgenson, PhD'79, became associate professor of chemistry with tenure at U of North Carolina.

Katherine (Kay) L. Knight, PhD'66, is professor in the Department of Microbiology at the U. of Illinois Medical Center in Chicago. She was elected to membership in the American Association of Immunologists in 1968, which is a mark of her rapid rise to recognition. She is a co-author of the book *Immunoglobulin Genes and β Cell Differentiation*. Also, she is co-editor of the *Journal of Immunology*. The department was pleased that she could be the speaker at a seminar here honoring Dr. Hauowitz this year on his 90th birthday.

Andrew P. Komin, PhD'75, and his bride since June have moved to Wichita, KS where he is a part of the Research Division of Koch Industries. With others he is establishing a unit to produce custom-synthesis of fine chemicals.

George S. Kriz, PhD'66, wife **Dian K. Waldo**, BS'66, and children spent 1984-85 in Bloomington. He was on professional leave from Western Washington University, where he has been on the faculty since 1967. This time at IU he held a courtesy appointment to conduct research with Dr. Shiner and work on a textbook of organic chemistry he started with colleagues at Western Washington. His special responsibilities at WWU include faculty director of the Vehicle Research Institute. The focus is on automotive and aviation fuels. This includes a course on automotive chemistry.

Milton L. Lee, PhD'75, has become the H. Tracey Hall Professor of Chemistry at Brigham Young U. As reported in the 1985 *Newsletter*, he has received various recognitions that attest to his productivity at BYU, and as a student of Dr. Novotny.

Joseph Leonelli, PhD'82, joined Stanford Research Institute after completing three years' service in the Army as captain. His position at SRI is program manager for electro-optics.

William M. LeSuer, PhD'48, in retirement from the Lubrizol Corporation, continues to serve on several boards and foundations. A new fulfilling experience was gained last year in Liberia, West Africa. With others "in 18 days [he] built a boys' dorm for a Methodist mission school." Their children continue in different occupations in Ohio. Among other things his wife Arlene "enjoys being on a Speakers Bureau for Church Women United, and being a mission interpreter." The two spent a month touring Tahiti, New Zealand, Australia, and Fiji.

James W. Mair, MS'70, is "still up to my eyeballs with health protection work in Rohm and Haas' Research Division, and while the work is never done it's very rewarding." This includes the concerns with new regulations, hazard communication to employees and customers, and work place monitoring. He

and the family live near Lansdale, PA.

Doreen Hung Mar, MS'83, is now a resident in medicine at the Grady Memorial Hospital in Atlanta, GA.

Edward Tom Marquis, AB'61, and family seem to be genetically dynamic all the time. He has been connected with Texaco from his sophomore year at IU when he received a generous Texaco scholarship. History seems to be repeating because the oldest son, **Robert**, now at U Texas, has a Texaco scholarship. Tom is heavily involved in research, patent work, and follow through on the epoxidation of olefins at Texaco. W. Meyer, now at U. Arkansas, and several faculty here catalyzed Tom, and the reaction is still running.

Donald R. Maulding, PhD'62, senior research chemist at American Cyanamid's Agricultural Research Center in Princeton, NJ, has received Cyanamid's highest research honor, the Scientific Achievement Award. This is for his research in producing the company's new imidazolinone class of herbicides. He is one of 13 company scientists worldwide to receive the award in 1985. E. Campaigne was his mentor at IU.

Dana W. Mayo, PhD'59, continues his development at Bowdoin College of a new concept for the teaching of organic chemistry laboratory courses. He and his associates are publishing a textbook based on the concept of semimicro and microscale preparative experiments.

William G. Mays, AB'70, president of Mays Chemical Co., in Indianapolis, has been elected to fill a vacancy on the Board of Directors of the Indianapolis Chamber of Commerce. In 1985 he was a recipient of the Outstanding Alumni Award presented by the College of Arts and Sciences - Graduate School Alumni Association. (This is another reason why more chemistry alumni should be paying members of IUAA.)

Robert R. McDonald, PhD'62, has been with Dow Chemical almost from the time he left IU. In 1985 he became president and chief executive officer of Boride Products, Inc., a firm recently acquired by Dow Chemical. From 1977 to 1982 he and his family lived in Switzerland where he was in marketing and business development positions for Dow in Mid Eastern and African countries. After returning to this country he became project director in Innovations and Development work in Dow's diversification activities in engineering ceramics. The latter is being continued.

Vicki L. McGuffin, PhD'83, became assistant professor of chemistry at Michigan State U in 1985.

Wendell Meyer, PhD'62, continues in the new Technical Information at Dow Chemical where they are attempting to make great improvements in the computer storage and retrieval of tech-

nical information. He has just completed a year as lieutenant governor of Kiwanis in Michigan. His wife, Barbara, teaches a course that relates the fundamentals of design to various aspects of business.

John W. Morgan, BA'63, has been transferred by P&G from Cincinnati to its pharmaceutical division in Norwich, NY. He will be responsible for all drug registration activities. Judy and the family will move to Norwich after school is out this year.

Rodney Moss, PhD'51, has completed his assignment at the Dow, Asia headquarters in HongKong and is now director of Licensing Product Acquisitions for the Global Agricultural Department of the Dow Chemical Company.

Donald E. Neese, AB'33, retired from the chemical division of Goodyear in 1973 and lives in Sedona, AZ. Following his specialty in organic coatings for masonry, wood, and metal surfaces he was persuaded to develop protective coatings for bronze sculptures. From these he has established Sedona Coatings, Inc. to manufacture and market this product. The plant is at Harvey, IL. While at IU he was a member of the track and cross country teams and captain of the Big Ten championship team in 1932. A special article concerning Neese was in the July/August 1985 *Indiana Alumni* magazine.

Edward S. Neiss, PhD'65, is now president of Chemex, Inc., a pharmaceutical firm in Denver.

Lorraine, widow of **E. E. O'Banion**, PhD'42, continues to live at Prairie View, TX. Son Charles is an attorney in Washington, DC, and daughter Harriet is married to a physician in San Antonio.

Elsa Proehl Paulsen, AM'54, continues productively in pediatrics research, especially juvenile diabetes, at the University of Virginia. Several students and technicians are in her team. She serves on review panels and site visitation teams. It appears that she is going to have a major paper this year. One son Peter works in a congressional office, and the other Chris is still in college.

William C. Pitman, AB'48, worked as a chemist and supervisor in ordnance works during WWII and the Korean war, and in the interim, until 1958, he was a research chemist for the Kansas Highway Testing laboratories. Following that he was with the Douglas Aircraft Co. as a materials chemist and design engineer in work related to propulsion systems. Indeed, he contributed to the effectiveness of the moon explorations. He and his wife have been retired since 1983. They live at Santa Ana, CA.

C. Royce Rasmussen, post-PhD'62-63, while here was in the Carmack

List of Chemistry donors, 1986

Stephen R. Addleman, BA'82
Burton L. Appleton, PhD'55
Harold L. Atkins, AB'50
Virginia Babb, BA'79
Charles R. Baker, AM'48
Joseph Baran, BS'78
Jean C. Beckman, PhD'77
Mohammad Behforouz, PhD'65
Ella M. Bettinger, BS'49
Lawrence A. Black, BS'77
Charles H. Boxman, AB'53
G. Dana Brabson
Thomas J. Brandt, BS'80
William W. Bromer, PhD'54
John Max Brown, AM'40
Elizabeth A. Browning
Helmut H. Brugman, AB'66
Robert R. Buck, BS'42
Kenneth T. Burck, BS'58
J. Paul Burnett, Jr., PhD'61
John E. Burks, Jr., PhD'79
William F. Carroll, PhD'78
R. Vincent Cash, PhD'52
Hsieh Fu Cheng, PhD'57
Po-Yuen Chiu, Postdoc'62
Richard E. Cline, PhD'51
Richard H. Cole, Jr., BS'69
Ronald W. Collins, PhD'62
Eugene S. Corner, AB'39
Standiford H. Cox, AB'51
Phillip J. Crabill, AB'63
Ralph A. Davis, AM'42
Joseph Dec, AB'36
Gerald E. Doeden, PhD'64
Linneaus Dorman, PhD'61
LeRoy Dugan, Jr., BS'37
Isidore S. Edelman, BA'41
Timothy Eisenhut, BS'80
Dewayne Enyeart
H. Eldridge Faith, BS'38
Sidney & Becca C. Fleischer, PhD'58
Evelyn S. Frohman, BS'43
John A. Frump, AB'50
Hugh Gardner, PhD'75
Frank P. Gay, BA'48
Lawrence Geller, BA'83
Robert H. Gillespie, BS'38
Benjamin Greenberg, BA'36
Eleonore Gucker
Herbert S. Gutowsky, AB'40
Charles W. Gwaltney, MS'66
Vernon L. Hammersley, MS'75
Nancy J. Harrison, BA'56
Miriam E. Hartzell, AM'46
David J. Hauber, MS'74
Kent L. Hays, BS'83
Edward G. High, PhD'50
Zachary I. Hodes, AB'72
Neil E. Irick, MD'71
William Joy, BA'83
Sanford A. Kaplan, BS'50
Nicholas J. Kartinos, PhD'47
Everett J. Kelley, BS'41
Robert J. Kelly, II, BS'68
John & Wendy Kindig, PhD'77
Gerald E. King, BS'39
Dennis Klemm, BS'69

Frank H. Kratli, MA'33
Nancy S. Krieger, AB'72
Paul E. Krieger, MS'65
Elma J. Lanterman, PhD'51
Joseph R. Leal, PhD'53
Guenther F. Lengnick, BS'57
Luan-Ho Lin, PhD'67
Randall E. Lis, PhD'83
Wayne E. Livingston, BS'53
Andrew Loh, BS'71
Robert MacKenzie, AB'48
Steven R. & Sue A. Maple
Max M. Marsh, BS'47
William G. Mays, BS'70
Robert McAnally, BA'71
Charles J. McCarter, BA'85
Richard O. McClure, BA'63
Wayne R. Merriman, BS'52
Kenneth E. Mickelson, BA'71
John W. Morgan, BA'63
Ira Murphy, PhD'57
Mark Neff, BS'72
Philip O. Nubel, BS'79
Charles G. O'Bannon, BS'47
William C. Pitman, AB'48
David P. Prather, MS'62
Richard D. Pruett, BS'50
C. Royce Rasmussen, BA'81
Avis I. Rector, AM'30
Wilmer T. Rinehart, PhD'40
Ramon F. Rolf, AB'51
Maxine Rowe, AB'40
Nancy E. Sachs, BA'76

Robert A. Sawicki, PhD'78
Alverta S. Schantz, BS'40
Saul A. Schepartz, BA'51
Mark E. Scherschel, Sr., AB'72
Ambrose F. Schmelzle, PhD'40
Nona J. Schoch
Robert I. Schrier, BA'47
Bernard G. Searle, AB'49
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Jack P. Young, PhD'55
Harold H. Zeiss, BS'38
Morris Zimmerman, PhD'55
H. Haskell Ziperman, BA'37
Daniel J. Zweig, AB'78

Association of Indiana University Chemists

NEWSLETTER

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group. He continues to search for new medicinal compounds with the McNeil Laboratories near Philadelphia.

Donald G. Rose, PhD'54, has been in research and administrative positions at Los Alamos since 1956. Prior to that time he was supervisor of the chemistry laboratory at the Johns Hopkins Applied Physics laboratory. His most recent assignments have included service in the Defense Construction programs. He may retire after another year or two.

Wendell Roelofs, PhD'64, has reached the pinnacle in recognition for scientific accomplishment in this country. In 1985 he was one of 19 scientists to receive the *National Medal of Science*, primarily for his research on pheromones. The award caps his election to the National Academy of Sciences the same year, and the receipt of the international Wolf Prize in Agriculture in 1983. Also, in 1985 his alma mater, Central College, awarded him an honorary ScD, and he was elected Fellow of AAAS. **H. S. Gutowsky**, AB'40, is the only other IU chemistry alumnus whose recognitions equal this record. Wendell is still active in ice hockey, tennis, and softball. And he is not yet 50!

P. Roy-Chowdhury, post-PhD'58-61, and wife Sumitra have moved to a new home near his laboratory in Poona, India. A son Ajoy has a graduate assistantship at the University of Rhode Island.

J. S. Sandhu, post-PhD'80-81, is assistant director and head of Drugs and Pharmaceuticals at the Regional Research Laboratory of CSIR, India. He directs about 16 workers in the area of heterocyclic chemistry.

Lothar Schafer, post-PhD '67-68, in the R. Bonham group, and two colleagues at the U. of Arkansas late in 1985 received the prestigious award given annually by the *Industrial Research and Development* magazine. This was for the electron diffraction instrument they have developed. It analyzes the molecular structure of gases in a fraction of the time required with other instruments.

Stewart Schneller, PhD'68, and his wife Aina were in Canada last year where he attended the meeting of the International Society of Heterocyclic Chemistry. Besides being professor of chemistry at U. South Florida he is the institutions Athletic representative in their conference.

Eugene M. Seidel, chemistry business manager in the 1950s, with two cofounders began a consulting service in 1982, Eugene M. Seidel Associates, Inc. This followed his many years of experience with the Crown Zellerbach Corp. The new company is now establishing a research laboratory and has three workers with doctoral degrees.

F. Marott Sinex, AM'45, has been

productive in research and administration in gerontology at Boston University School of Medicine many years. Since approximately 1980 the interest has been primarily on Alzheimer's disease. He is chief of biomedical gerontology at Boston U.

Curtis M. Snow, MA'46 and **Marcia**, MA'48, live in Pasadena, MD. They spent two weeks in Austria and surrounding places in September. He expects business to improve after "Congress gets its act together."

Elizabeth Buchanan Solow, MS'62, is preparing to retire after serving on the faculty in the IU School of Medicine since 1962. Since 1981 she has been professor of neurosurgical research in the Department of Surgery (Indianapolis). Much of her work has been chromatographical methods for neurophysiological drugs. She started her professional career in medical technology. While at Bloomington, she was active in Iota Sigma Pi.

Alice Haurowitz Sievert, AB'50, and husband, Bill, come to Bloomington fairly often to visit her father, Prof. Haurowitz, who at 90 still spends some time each day in his chemistry office. Although she still uses crutches she can drive a car. She does part-time work at home summarizing microbiology projects for Abbot Labs where Bill has been in research and administration for many years.

Homer Smith, visiting scientist, '77-78, and wife Martha have moved to Decatur, IL where he is chair of the Department of Chemistry at Millikan University. Martha teaches learning-disabled students in the public schools.

Ian W. Stapleton, PhD'66, continues as a wool scientist in the Commonwealth Scientific and Industrial Research Organization of Australia. At the International Wool Research Conference in Tokyo he presented two papers and chaired a conference session. Ian and Shirley's son, David, was a guest of Marvin and Joan Carmack in Bloomington a year ago.

Helen Merriam Stewart, AM'46, and her husband took leave from their farm work at Maquoketa, IA to spend over a year in the Peace Corps with assignment in Costa Rica. She is so imbued with the spirit of PC that they are "just aching to go back." She has written several brief articles for the *Iota Sigma Pi* Member-at-Large newsletters since the chemistry organization's convention in 1984.

Michaeleen Trimarchi, MA'84, has been reported by **Gary Wiggins**, AB'66, to be a reference librarian with Kodak in Rochester, NY.

Theodore B. Warner, PhD'63, after many years as a research chemist at the US Naval Research Laboratory, has formed his own consulting firm,

Warner Associates of Glen Echo, Inc. The location is in Bethesda, MD, and his client is the Naval Research Laboratory. He and Mrs. Warner visited the campus in May during their tour of three other institutions, to visit three of their children and attend the graduations of two.

Richard J. Watkins, PhD'69, wife, Roberta Anne, and daughter are spending 1985-86 in Bloomington. He is visiting professor and is teaching C342 and C343. Of course, he is conducting research. Dr. Watkins joined the faculty of his alma mater, Carroll College, in 1976 and became chair in 1979. His research there is a continuation of work started here under Dr. Crandall: the rearrangements of small-ring heterocycles.

Robert H. Weir, BS'40, began 1986 by having by-pass surgery the last of December at the IU Medical Center. He is recovering well and expects to resume occasional visits to departmental seminars and other functions this year. He and Mrs. Weir have lived in Brown County since his retirement from Dupont.

Henry S. Wilson, PhD'38, had a stroke in 1983 and is confined to a nursing home (Westminster Terrace Health Care Center, 2116 Buechal Bank Rd, Louisville, KY 40218). This information was received from his wife, Geneva. Dr. Wilson was professor of chemistry at Bellarmine College when he retired in 1967. Dr. F. C. Mathers was his mentor at IU.

Bernard Wolnak, PhD'43, since 1963 has been president of Bernard Wolnak and Associates. A subsidiary is BW Biotec, Inc. This is owned jointly with a consulting firm in Japan. He is primarily involved with associates in consulting economic aspects of various areas of organic chemistry and biochemistry. Other activities include market surveys, patent liaison, and government agency contacts.

Peter G. Wolynes, AB'71, is to receive the ACS Award in Pure Chemistry in April. His research focuses "on the interplay between chemical dynamics and many body phenomena, highlighting the role of the molecular environment in the rates of chemical reactions." Also, C&EN stated in October that he "has made important and seminal contributions in the dynamics and mobility of molecules in complex liquids, rates, and mechanisms of reactions in solution and quantum dynamics in the liquid state." He is now professor of chemistry at the University of Illinois.

Julie Yang, AM'52, recently visited her two uncles (88 and 89) in HongKong and Taiwan. Her father **S. H. Yang**, post-PhD'45-46, died in China in 1985.

Jack P. Young, PhD'55, and Jean accompanied 14 other analytical chemists on "a fantastic trip" to China, Japan, and HongKong. They continue to live in Oak Ridge where he remains productive in research.

Necrology

Thomas M. Boyd, AB'41, DDS'48, died May 26, 1985, at Muncie, IN. He had practiced dentistry in Muncie more than 35 years. He was active in several civic organizations and was a member of the First United Methodist Church at Muncie. The Indiana State Dental Association made him president of the Association for one term, and in 1968 he was president of the IU School of Dentistry Alumni Association. Survivors include his wife, Alice, and 4 children.

Thelma Ward Bonecutter, AB'37, AM'38, PhD'42, died September 3, 1985 at Sheridan, IN. At IU she had an excellent scholastic record, as indicated by her membership in Phi Beta Kappa.

Troy Cook Daniels, PhD'29, died February 9, 1985 in San Francisco. He had been dean of the School of Pharmacy at the University of California from 1944 until his retirement in 1967. He joined the UCSF faculty in 1929. He had honorary degrees from the University of Michigan and the University of California. Also, among other recognitions, he was the first to receive the

Foundation Achievement Award of the the American Pharmaceutical Association. He was noted particularly for his role in developing curricula for graduate schools of pharmacy. His major research was in the development of anti-bacterial drugs. Survivors include his wife and two children.

Ralph H. Humbaugh, AB'26, died January 22, 1985 in Chicago. For many years, until his retirement in 1970, he was president of Speare Co., a laundry supply firm in Chicago. He was the inventor and marketer of Mil-Cide, a chemical additive for swimming pools.

Pearle A. Monroe, PhD'52, died August 30, 1985. He became a research rubber chemist in Sumatra, but after six years he joined the faculty of State University College (now SUNY at Oswego) where he became professor and chair of chemistry. At IU he had the tutelage of E. Campaigne.

Geoffrey (Gregory) D. Parfitt, post-PhD'55-56, died suddenly July 7, 1985 while on vacation in Colorado. He was professor of chemical engineering at Carnegie-Mellon University. He came to IU from Bristol University where he received his BS, MS, and PhD degrees. At IU he was association with W. J. Moore. His wife, Sheila, did research in J. H. Billman's laboratory.

S. T. Shi-hsien Yang, post-PhD'45-46, died February 19, 1985 after a long illness in Tientsin, China. He had been president of Nankai University many

years and was known well for his resistance to the "Gang of Four" during their decade of domination in China. His daughter **Julie Yang**, AM'52, wrote that about 10,000 students, relatives, and friends attended the simple viewing and memorial service.

Join the IUAA

More chemistry alumni should join the IU Alumni Association. Receiving the *Indiana Alumni* magazine is alone worth the cost of the annual dues. Of course there are other cogent reasons for being a member.

As President Ryan recently reminded Big Ten alumni volunteer leaders, universities will not continue to advance without the assistance of organized alumni. There are more than 250,000 IU alumni, and more than 62,000 are dues-paying members. More than 50 constituent society and departmental organizations, such as AIUC, are served by the IUAA. Of course there are many departmental alumni publications such as this newsletter. Membership in the IUAA is really belonging to IU. The cost is small, and the satisfactions are permanently rewarding.

Harry G. Day

ALUMNI ALLIES

IF YOU ARE INTERESTED IN SHARING CAREER AND JOB SEARCH ADVICE WITH IU STUDENTS, PLEASE FILL OUT COUPON BELOW AND SEND TO:

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REMINDER

Social Hour for Indiana University Chemists will be a part of the ACS Alumni Hour at the National Meeting in New York on Tuesday, April 15 at 6:15 pm in the Westside Ballroom North, Marriott Marquis.

There will be a sign identifying the AIUC. Bring any pictures or other items that you would like displayed on our bulletin board.
See you there!

Remember: New York, ACS Alumni Hour, Tuesday, April 15

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