

# CHEM-LETTER

March 1986

University of Washington Department of Chemistry

Volume 15

## FACULTY GROWTH SPURT CONTINUES



Drobny, Doherty, and Gelb

The recent addition of three new assistant professors brings the Department of Chemistry's total of tenure-track positions to thirty-nine and extends a pattern of unprecedented growth that began last academic year when five new faculty were hired.

Nancy M. Doherty, Gary Drobny, and Michael H. Gelb join the department at a time when total research support approaches \$3 million. Unoccupied space in Bagley Hall has become as rare as an atom without its orbital, and evidence of chemical colonization can be found in four additional buildings on campus.

Before coming to Seattle, Nancy M. Doherty spent one and one-half years

at the University of Bristol (England) doing postdoctoral work on the chemistry of small hydrocarbons coordinated at diruthenium and dimolybdenum centers. For the Massachusetts native and magna cum laude B.A. degree alumna of Dartmouth College, one of the advantages of returning to the United States is the availability of all-night grocery stores.

Doherty's graduate work at the California Institute of Technology on the reversible insertion of olefins and alkynes into transition metal hydride bonds was supervised by John E. Bercaw. While at Caltech, she was a recipient of the Herbert Newby McCoy Award and a Dreyfus Foundation Visiting Fellowship.

Her work in the areas of organometallic and inorganic chemistry currently focuses on polymers and polymerization. She is studying the chemistry of olefins at transition metal centers as models for understanding the mechanism of metal-catalyzed olefin polymerization. Doherty's work examining coordination chemistry of early transition metals is directed at developing new methods for synthesizing metal-containing polymers.

At last summer's Organometallic Gordon Conference, Doherty presented a poster on "Oxidatively-Induced Activation of Hydrocarbons Coordinated at Dimetal Centers." Shortly before leaving Bristol, she also gave a seminar on the "Kinetics and Mechanism of the Insertion of Olefins into Transition Metal Hydride Bonds."

Doherty is a sports and outdoors enthusiast. Although she boasts of consistent mediocrity, she is willing to try anything new and is looking forward to learning sailboarding next summer.

While Gary Drobny stops shy of calling himself a professional student, he does admit that California State University (Sacramento and San Francisco)

sent him a letter once asking him to leave after seven years of undergraduate work.

So the summa cum laude graduate of chemistry and anthropology drove across the Bay to the University of California at Berkeley, where his 1981 Ph.D. thesis under Alexander Pines's direction involved "NMR Studies of Liquid Crystals and Molecules Dissolved in Liquid Crystal Solvents."

Drobny's appointment as an assistant professor follows several promotions within the Department of Chemistry, to which he originally came in 1981 with major operations responsibilities in the NMR laboratory. Under Drobny's management, the facility has grown to include three 500, two 300, and one 200 MHz NMR spectrometers.

As a professor, Drobny will continue to use novel NMR techniques to study a wide variety of problems, including the structure of biopolymers, DNA dynamics, conformation of molecules in liquid crystalline phases, structure of physisorbed and chemisorbed molecular species, and polymer-surface interactions.

Drobny is a brown-belt in judo who once taught a course in the martial art to children at a San Francisco YMCA. Prior to leaving the Bay area, he also participated in more than a dozen archaeological digs and has a publication on his work excavating northern California Indian sites.

Drobny's wife, Frannie, is a freelance paralegal aide who shares his enthusiasm for hiking and skiing.

Somewhat hesitant to list mountaineering as one of his hobbies lest members of the faculty force him to put his crampons where his mouth is, Michael H. Gelb does, nonetheless, enjoy Alpine skiing and hiking, as well as photography, in his spare time.

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## CHAIRMAN'S MESSAGE



Dear Alumni,

While Alvin Kwiram is spending a well-deserved sabbatical in Stuttgart, West Germany, I have found that it is my responsibility to pen the *Chairman's Message*, among other things. While I occasionally ponder how I ever let myself be talked into assuming the chairmanship, it is nonetheless gratifying to follow in the footsteps of a man whose efforts have moved the department in increasingly positive directions. Alvin will return this summer to resume his duties as chairman.

In addition to the eight new faculty who have joined us since 1984, two senior appointments already have been made for the fall of 1986—one in the area of laser spectroscopy and the other in chemical oceanography. We also are recruiting for two more analytical positions. These faculty members will strengthen a division that has recently restructured and augmented its curriculum with several new courses, as well as provide support to the Center for Process Analytical Chemistry (CPAC).

Reference will be made elsewhere to the department's move into the Drama/TV Building. Because extensive wet chemistry cannot be conducted there, we are moving those functions that do not require much plumbing or ductwork. In addition to services such as our computer facility and staff, our Purchasing and Accounting Office, CPAC administrative offices, and our electronics shop, this building also will house our expanded departmental X-ray diffraction facility. The new CAD4 X-ray diffractometer will make structural studies available to a wide range of research groups

studying novel materials. Because of the power of modern X-ray crystallography, this instrument is probably the single most important equipment upgrade of the past year.

As the department's programs and faculty have grown, so have its needs. While we have had the support of the University administration in contending with many of the capital, equipment, and personnel demands placed upon us by such expansion, we still need your help to provide for excellence. Despite dependence on a somewhat precarious state budget (based on, among other things, the timber and aerospace industries), the morale among our faculty is high and there is a feeling that we are poised to make advances in our increasingly distinguished teaching and research programs. State funds are spread thin, however, and in order to improve additional aspects of our operation (such as scholarships, visiting lecturers, and the like) we are turning to our alumni and friends for assistance. Within the next month or so, you will receive a letter which details some of our concerns and announces the start of the Department of Chemistry Annual Fund. I encourage you to study carefully this information and to respond with the knowledge that your contribution, whether it be cash, in-kind gift, or bequest, will be used judiciously to provide those things for which state funds are either unavailable or inadequate.

Sincerely,

Bruce E. Eichinger  
Acting Chairman

## CPAC SCIENTISTS HONORED



Major scientific awards have gone to three primary research investigators at the Center for Process Analytical Chemistry (CPAC) as the NSF-supported center enters its second year of operation.

Tomas Hirschfeld, an affiliate professor of chemistry at the UW, received the Society of Applied Spectroscopy Louis Strait Award and the 1986 Pittsburgh Spectroscopy Award recognizing his achievements in the area of infrared spectroscopy. Hirschfeld is a senior scientist at the Lawrence Livermore National Laboratory.

The Swedish Chemical Society's 1985 Torbern Bergman Medal was given to visiting CPAC scientist Jaromir Ruzicka. He is an authority on flow injection analysis and a professor at the Technical University of Denmark. Ruzicka spends six months each year at the UW conducting CPAC research.

CPAC founder and co-director Bruce R. Kowalski was the recipient of the Analytical Chemists of Pittsburgh Award at the group's national meeting in 1985. Kowalski was recognized for his work in chemometrics and process analytical chemistry and he is also the founder of the International Chemometrics Society.

The list of CPAC's industrial sponsors has grown to twenty-six with the recent addition of the Digital Equipment Corporation. In addition to a yearly \$30,000 membership fee, companies affiliated with the center may provide in-kind services, such as Perkin-Elmer's recent donation of an FTIR spectrometer to the Department of Chemistry in support of CPAC activities.

## RINGOLD FELLOWSHIP ESTABLISHED



Marion Ringold, Arts and Sciences Dean  
Ernest M. Henley, Graduate School Dean  
Gene L. Woodruff, Constance R. Ringold,  
Associate Chairman Arthur G. Anderson,

Acting Chairman Bruce E. Eichinger, and  
Judge Solie M. Ringold. Solie and Marion  
Ringold are Howard Ringold's brother and  
sister-in-law.



University of Washington chemistry Ph.D. graduate Howard J. Ringold achieved much prominence as an organic and biochemist and now, because of the generosity of his widow, Connie, outstanding applicants to the graduate program will have a chance to compete for a fellowship established in his memory.

Ringold spent most of his professional career at the Syntex Corporation and was senior vice-president for research at the time of his death in November of 1984. He earned his B.S. degree in chemistry from the U.W. in 1946 and as a graduate student, chose Hyp Dauben to supervise his doctoral work on the synthesis of cyclic ketones.

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In 1979, Ringold became the director of basic research at Syntex, guiding the activities of five research institutes. At various times during his career, he was personally involved in antiinflammatory research, endocrinology, and skin biology. Although much of his later career at Syntex involved management of up to 400 scientists over a broad range of research areas, Ringold maintained his research interest in the study of uterine estrogen binding receptors. He published more than 130 scientific papers.

Ringold played a major role in promoting study of the biochemistry and chemistry of prostaglandins at Syntex as abortifacients, luteolytic agents, for inhibition of gastric acid, and for antithrombotic applications. He had an interest in male antifertility agents and in the use of antiandrogens for the potential control of acne. In later years, as Syntex research programs diversified, he had overall responsibility for the cardiovascular program.

In addition to a substantial contribution from Connie Ringold, who is a home economics graduate of San Jose State University, the Syntex Corporation has matched individual employee contributions in Ringold's memory up to \$2,000 on a two-for-one basis. Approximately \$50,000 in donations have been made to the fellowship fund to date.

Syntex is a research-oriented, health-care and life-sciences company with approximately 11,000 employees in more than 30 countries. Steroids, such as those used in skin treatments and birth control pills, were among the company's first products, and today prescription pharmaceuticals account for roughly two-thirds of the company's sales. Syntex drugs are widely used in the treatment of arthritis, pain and inflammation, skin diseases, and respiratory ailments. New compounds under development will treat cardiovascular and gastrointestinal illnesses. In fiscal 1985, Syntex's Naprosyn® became the best-selling prescription drug for arthritis in the United States and the fifth best-selling of all prescription drugs in this country.

In the past decade, Syntex and its subsidiaries have expanded into allied health areas such as medical diagnostic instrumentation used to monitor human drug levels and animal health products used by veterinarians and livestock producers. The company also sponsors the semiannual Pacific Coast Lecture Series in which European chemists present seminars at West Coast schools.

Ringold, the father of seven children, was an avid sports fan who enjoyed skiing and

playing tennis. He and his wife had traveled extensively throughout the world, and Connie Ringold furthers her interest in foreign cultures by volunteering at Stanford University's International Center. Several years ago, Ringold, a first-generation born American, and his wife established three anonymous scholarships in memory of Mrs. Ringold's grandparents for immigrant students at a northern California community college.

\* \* \*

The Boris Weinstein Fellowship is an-

other endowment account recently established to support outstanding graduate students in the UW's Department of Chemistry.

Established after the untimely death of the former bioorganic and organic chemistry professor, this fellowship consists primarily of individual contributions and the proceeds from a piano recital held last year in Weinstein's memory, as described in last year's CHEM LETTER.

## THE LONG AND WINDING RHODES



**R**achel Klevit clearly remembers her first meeting with the Rhodes Scholar warden, Sir Edgar.

A tiny, bespectacled old man, he didn't bother to peer over the rim of his glasses, which were resting at the end of his nose, to look Klevit full in the face. Avoiding her gaze, he sniffed that the college she would be attending during her tenure as a Rhodes Scholar was a hideous place, the building in which she would be studying—Biochemistry Hall—was awful, and that the only way to salvage her time at Oxford would be to go out for rowing.

Klevit is currently a faculty research associate in the UW's Department of Chemistry and she recalls that her selection as a 1978 Rhodes Scholar (only the second year the competition was open to women) was one of a number of formidable odds she was to face.

Klevit credits her ballet training for helping her to win the Rhodes, which has the proviso in its trust that candidates have a "fondness for or success in sports." Even

so, she recalls explaining, during one of her preselection interviews to a man who doubted the rigors of dance, that she had been honing her sport three hours a day, six days a week for the last thirteen years. Klevit jokes that she spent more time with her dance teacher than with her mother.

After dancing in Portland, Oregon, during and after high school, Klevit took an apprenticeship with the Royal Winnipeg Ballet. Although physically challenging, ballet did not consume all of her energy. She passed time by studying calculus books she bought at the University of Manitoba bookstore. Eventually she returned to Portland, enrolled in Reed College, and took her very first chemistry course.

Originally a pre-med student hoping to practice sports medicine, Klevit's interest in chemistry grew, and by the time her adviser informed her that she had been nominated for a Rhodes Scholarship so she had better apply or it would look very embarrassing for Reed College, Klevit already had plans to pursue chemistry graduate work at either Caltech or Berkeley.

Because she already knew she wanted to be a research scientist, Klevit asked for and received a one-year extension to the normal

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### CHEM LETTER

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Anderson, Jr.  
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## FACULTY UPDATE

**NIELS H. ANDERSEN** (Organic): During the past year, Andersen has served as a consultant to the Squibb Institute for Medical Research, Genetic Systems, and Ultra Diagnostics Corporation. He gave a number of talks on "Bioorganic Application of Phase-Sensitive Detected 2D NMR," and most recently has spoken at the University of Utah and at the NAS's Biochemical Pharmacology Symposium.

**ARTHUR G. ANDERSON** (Organic): Anderson continues as associate chairman and graduate program coordinator. In addition, he is the chairman of five departmental committees and the University Building Planning Committee for Chemistry. He serves on two other committees.

**WESTON T. BORDEN** (Organic): Last Spring Quarter, Borden was a visiting scientist at the Institute of Molecular Science in Okazaki, Japan. Later, as a guest of the Ministry of Education of the People's Republic of China, he gave a series of lectures at Sichuan University in Chengdu. Since returning to the U.S., Borden has addressed a joint U.S./Japan symposium, Electronic Theory of Chemical Reactions, in Bloomington, Indiana, and lectured at universities in Colorado.

**LLOYD W. BURGESS** (Analytical): As a new research assistant professor, Burgess is working on a CPAC-funded project which, in its initial phases, is concerned with the assembly and testing of a fiber-optics-based measurement system for fluorescence analysis and the development of specific reagent chemistries. Burgess also presented a tutorial last October on fiber-optic biomedical sensors at the UW.

**JAMES B. CALLIS** (Analytical): In the last year, Callis was promoted to research professor, and has given invited talks at Upjohn, Exxon, Du Pont, Texas A & M, and at the Analytical Laboratory Managers Association's annual meeting. In addition, he served as chairman of a Gordon Conference on process analytical chemistry last summer, and organized a symposium on this same subject for the annual FACSS meeting in Philadelphia last fall. The NIH is supporting his collaborative research applying near-infrared spectroscopy as a means of noninvasive clinical analysis.

**GARY D. CHRISTIAN** (Analytical): The fourth edition of Christian's book *Analytical Chemistry* (Wiley) and the second edition of his *Instrumental Analysis* (Allyn-Bacon) recently have been published. Christian continues his work on the Graduate Record Examination's Committee of Examiners for the chemistry test and has

been appointed to the advisory board of "CRC Critical Review of Analytical Chemistry." In addition to several invited speaking engagements, he has given invited papers at symposia in New Orleans and Pittsburgh. He also addressed the 12th Annual Meeting of the Federation of Analytical Chemistry and Spectroscopy Societies in Philadelphia last year.

**DAVID F. EGGERS** (Physical): Eggers spent part of last summer visiting relatives in Sweden, and traveled to Norway, Denmark, and Germany. While on vacation, he consulted with colleagues at eight European universities.

**BRUCE E. EICHINGER** (Physical): During a speaking tour last spring, Eichinger presented seminars at the NIH, National Bureau of Standards, the ACS's Miami meeting, the Exxon Corporation, and Sandia National Laboratory. In Alvin Kwiram's absence, Eichinger is serving as acting chairman and reports that he has launched a mediocre career as a part-time, temporary administrator.

**THOMAS ENGEL** (Physical): During the past year, Engel gave more than a dozen invited talks to academic and industrial groups. Among the scientists he addressed were faculty at the University of Chicago, Cornell, Harvard, and MIT, and researchers at AT&T, IBM, and General Electric.

**MARTIN GOUTERMAN** (Physical): Gouterman was a co-organizer of a conference on "Excited States and Photodynamics of Porphyrins" that was held in Little Rock, Arkansas, last November. In addition, he reported on the curriculum development of a course dealing with the use of computers in data acquisition and analysis to the IBM-Advanced Education Program Conference in Virginia last summer.

**GEORGE D. HALSEY** (Physical): Halsey is serving on the administrative staff group studying the University District Transportation Program (a joint venture between the City of Seattle and METRO). He continues to participate on the board of Phi Beta Kappa, the Arts and Sciences Honors Council, and the Fulbright Selection Committee. In addition, Halsey is on the executive committee of the Faculty Senate, and is chairman of the Faculty Insurance Committee and vice-president of AAUP.

**ERIC J. (RICK) HELLER** (Physical): Heller has given invited talks at the November meeting of the U.S./Japan seminar on "Time-Resolved Vibrational Spectroscopy" in Hawaii, the ACS meeting in Chicago, and a Gordon Research Conference last summer. He has also addressed groups in

Utah and Belgium. Heller is a co-investigator, along with Wes Borden, on a recently funded grant by the NSF to acquire a new Convex C1 computing system for the department.

**DAVID E. HONIGS** (Analytical): During the past year, Honigs has given invited lectures at LABCON West, SOHIO, the 1985 International FTIR Conference in Ottawa, Canada, and the Technicon Near Infrared Conference. His research is supported by the DOE, American Cancer Society, and CPAC.

**PAUL B. HOPKINS** (Organic and Bioorganic): Hopkins, whose research increasingly deals with problems in bioorganic chemistry, spoke at an NSF workshop last summer on organic synthesis. Last spring he attended the Searle Scholars meeting in Chicago.

**DAN G. IMRE** (Physical): Imre's research studying the spectroscopy of nonstationary states is supported by a three-year NSF grant. This past year, he spoke at the ACS Chicago meeting and at USC. In addition, he lectured at last summer's Time Resolved Vibrational Spectroscopy Conference in Germany.

**BRUCE R. KOWALSKI** (Analytical): Named the editor in chief of the forthcoming *Journal of Chemometrics* (Wiley), Kowalski has also co-authored a new, introductory textbook entitled *Chemometrics* (Wiley). His invited lectures include talks in Sweden and West Germany, and he is serving as chair of a symposium on mixture analysis at the 1986 Pittsburgh Conference. Last summer, he chaired a Gordon Research Conference meeting, Mathematical Separation of Mixtures.

**ALVIN L. KWIRAM** (Physical): The National Research Council has recently asked Kwiram to serve as a regional liaison leader in connection with the NRC's effort to implement recommendations of its report entitled "Opportunities in Chemistry," and to promote the report with Congress and business leaders. Earlier this year the AAAS elected Kwiram to the status of Fellow. He was invited to be one of five panelists at the Research Roundtable Conference on Research Facilities and Infrastructure sponsored by the N.A.S. and the National Academy of Engineering. Currently, Kwiram is on a year's sabbatical at the Physics Institute of the University of Stuttgart.

**JOHN W. MACKLIN** (Inorganic): Macklin continues to serve on the College Board's Science Advisory Committee. In

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addition, the collaborative, NASA-supported research he is conducting on micrometeorites and cosmic dust has benefited from the complete assembly of the micro-Raman spectrometer.

**JAMES M. MAYER** (Inorganic and Organometallic): Mayer, whose research in the area of transition metal oxide complexes is supported by the PRF and the Research Corporation, spoke last year at Western Washington University, Du Pont, and at an NSF workshop on organometallic chemistry. He has overseen the installation of the new departmental X-ray diffractometer and managed to find time, with all of these activities, to get married last summer.

**C. BEAT MEYER** (Inorganic): Last year, Meyer was elected chair of a committee established by, among others, the EPA, to develop standard sampling and measurement methods for indoor air pollutants. Meyer and his students organized and co-chaired an ACS symposium in Miami Beach last year for the Cellulose Division. His work in the areas of sulfur and formaldehyde chemistries have been the subject of talks in London, Paris, Copenhagen, and Philadelphia. Meyer also has addressed the Bonneville Power Administration, the EPA, Seattle-King County Public Health Service, and the American Lung Association.

**JOE G. NORMAN, JR.** (Inorganic): Norman was nominated by UW President Bill Gerberding to participate in the 1985-86 Leadership Tomorrow Program. Sponsored by the Seattle Chamber of Commerce and United Way, this program identifies future community leaders and gives them experience with important community issues. Norman, who also serves as associate dean in the Graduate School, spent ten days last summer in the mountains and Pacific coastal areas of Costa Rica.

**YESHAYAU POCKER** (Organic and Biophysical): In the past year, Pocker has been elected to the International Society for Biomedical Research on Alcoholism and to the International Society of Biomedical Gerontology. He continues to serve on the board of reviewing editors of *Science*. Last summer he gave invited lectures at the International Workshop on Zinc Enzymes in San Miniato (Pisa), Italy, and at the first International Congress of Biomedical Gerontology in New York. While in Europe last September, he spoke at the Universities of Florence, York, and London and at the Royal Society of Chemistry Meeting on Fast Reactions in Solution. Pocker, whose research is supported by the Muscular Dystrophy Asso-

ciation, the NIH, PRF, and the NSF, received a Plaque Award last year from the American Chemical Society.

**B. SEYMOUR RABINOVITCH** (Physical): Although Rab has taken early, partial retirement, he will continue to teach on a 40 percent-time basis and do research for several more years. He was invited to give the William Draper Harkins Lecture at the University of Chicago last year, and during the summer months, which he spent in England, he visited several British universities.

**STANLEY RAUCHER** (Organic): Last November, Raucher presented the results of his work involving the recent total synthesis of the alkaloid catharanthine at a IUPAC symposium on the "Organic Chemistry of Medicinal Natural Products" in Shanghai, China. His research on natural products exhibiting anticancer activity, supported by an NIH Career Development Award, continues.

**DAVID M. RITTER** (Inorganic Emeritus): Ritter's collaborative research with Ph.D. alumni Victor Williams, J. H. Osborne, and R. C. P. Hill have resulted in the recent publication of papers in *Inorganic Chemistry*. This coming year, Ritter will be working on the final, unequivocal assignment of <sup>1</sup>H NMR spectra of the methylpentaborane-11s using 2D NMR.

**NORMAN J. ROSE** (Inorganic): Rose participated in University Extension programs for both community college chemistry instructors and high school chemistry teachers. He also served as a consultant for Georgia Pacific Corporation, Abbott Laboratories, and Procter & Gamble.

**J. MICKEY SCHURR** (Biophysical): Schurr has been appointed to the editorial board of *The Biophysical Journal*. He has given invited talks at Georgia State University and at Sandia National Laboratory in the past year, as well as written an invited review on "Dynamic Light Scattering Studies of Biopolymers" for the *Annual Review of Physical Chemistry*.

**LEON J. SLUTSKY** (Physical): Slutsky spent Fall Quarter as a visiting scientist at Cornell University and during the past year has given invited lectures at the University of Rochester, Pennsylvania State University, MIT, Cornell, and the University of Utah. He serves on the UW's Council on Faculty Affairs.

**WILLIAM F. TRAGER** (Medicinal): Trager, an adjunct professor of chemistry, serves as a science adviser to the Food and Drug Administration and continues as a member of the NIH's Pharmacology Review Committee. Last year, he gave an invited

talk at the International Meeting in Pharmaceutical Sciences in Montreal and at the symposium on the Development of Drugs and Modern Medicine in London. He is the co-investigator on a successful application to the NIH for the acquisition of a new, high-resolution mass spectrometer for the Department of Medicinal Chemistry.

**DARRELL J. WOODMAN** (Organic): Woodman continues to serve as director of undergraduate studies in chemistry, as well as chairman of the College of Education's Committee for the Certification of High School Science Teachers.

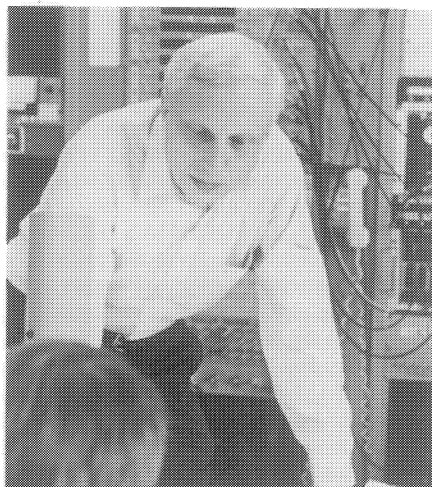
**WILLIAM F. ZOLLER** (Analytical): During the last year, Zoller had an EPA contract to study the effect of rain chemistry on the shutdown of the ASARCO smelter in Tacoma, Washington. Over the summer, he took four of his graduate students with him to study volcanic chemistry in Hawaii. A total of fifteen invited seminars were presented by Zoller last year.

## CHEMISTS OF A FEATHER . . .



Beneath his feathery veneer, Rick Heller was clucking mad. He recently took to the streets in a chicken suit to protest a proposed county development plan which threatens to destroy the rural atmosphere of Heller's home and surrounding area. Not to be confused with Chicken Little's theory that the sky is falling, Heller's quantum mechanical theory developed for molecules is being used by Mexican scientists to predict the concentration of energy and damage during earthquakes. (Photo courtesy of Dianne Hagaman, *Bellevue Journal-American*.)

## NUCLEAR CHEMIST HEADS COMMITTEE



**Bob Vandenbosch**

The sun is the closest star to earth, and its energy production is essential to life on this planet. The burning of hydrogen by nuclear fusion in the deep interior of the sun is believed to be the primary source of solar energy. Attempts to prove this by detecting the neutrinos emitted during the fusion process have not been successful and this failure has been termed the "solar neutrino problem."

The persistence of this scientific puzzle after twenty years of studying these sub-

atomic particles recently prompted the Nuclear Science Advisory Committee to commission a group of scientists to study the solar neutrino problem and make recommendations for future experimentation.

Bob Vandenbosch, a member of the UW's chemistry faculty, was selected to chair this committee, and after six months of investigation, he presented the findings to senior DOE and NSF officials. Later he met with former White House Science Adviser George Keyworth to discuss his group's results.

The solar neutrino problem arises because only one-third as many neutrinos are observed using a  $^{37}\text{Cl}$  radiochemical detector as expected on the basis of theoretical models of the sun's energy output. The present lack of understanding concerning the production and possible oscillatory nature of these neutrinos calls into question beliefs about the environment in which energy production takes place in the sun, the ages of stars and galaxies, and the nature and stability of fundamental particles. Vandenbosch's committee recommends that further study be initiated using a different kind of detector with 30 metric tons of gallium. This detector would be more sensitive to lower energy neutrinos than was the chlorine detector.

Vandenbosch is no stranger to leadership

roles. From 1979 until 1983, he served as director of the UW's Nuclear Physics Laboratory, where his principal accomplishment was spearheading the successful effort to acquire funding for the superconducting booster upgrade of the accelerator. When he inherited the job as director, the existing accelerator was nearly twenty years old. After initially being cut from the Carter administration's revised 1980 budget, the UW's \$8 million proposal was included in the president's 1981 budget agenda.

Currently, Vandenbosch serves as the booster's task manager for planning and cost control and he helps troubleshoot electroplating and other technical problems.

One of the nicest trade-offs in relinquishing his management responsibilities has been the increased time Vandenbosch can devote to research. His interests focus on the dynamics of nuclear reactions. In particular, he has been interested in recent years in the mechanisms for energy dissipation and angular momentum transfer when both the projectile and target are complex nuclei. In such reactions one can excite rotational, vibrational, and nucleonic degrees of freedom of both the target and projectile. General probes often used to study such reactions are the measurement of the kinetic energy, mass, and angular distributions of the reaction products. Vandenbosch pioneered a new approach utilizing the angular correlation of sequential fission fragments to probe the magnitude and orientation of the angular momentum imparted to the target nucleus. The correlations obtained demonstrated the important role that nucleon exchange between the reaction partners plays in converting kinetic energy of relative motion into internal excitation energy and in converting orbital angular momentum into intrinsic spin.

A newer area of interest is a study of the probability for two heavy nuclei to fuse when the bombarding energy is lower than the Coulomb barrier. This probability is governed by quantum mechanical barrier penetration but also is influenced by another quantum effect, the zero-point vibrational motion of the target nucleus. Large differences have been found in the fusion probability when the target has a low vibrational frequency as compared to when the target vibrations have a high frequency.

Last October, Vandenbosch was asked to participate in the European Conference on Chemistry and Physics of Reactions Between Complex Nuclei in Jerusalem. West Germany, the USSR, Canada, Japan, South

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## ALUMNUS EARNS NSF AWARD

Stuart A. Allison, an assistant professor at Georgia State University and a UW Ph.D. alumna, has been named a 1985 Presidential Young Investigator.

This National Science Foundation program, designed to retain top-quality academic scientists by meeting the disparity created by more attractive corporate offers, provides \$25,000 annually for five years. The NSF will also grant up to \$37,500 of additional funds on a dollar-for-dollar matching basis to contributions from private and industrial sources. Permanent equipment is now eligible for matching NSF monies in addition to cash donations.

Allison, whose graduate work with Mickey Schurr resulted in his 1980 dissertation, "Effects of Simple Triamines on the Internal Brownian Motions and Conformations of DNA," was one of sixteen chemists named PYIs. A total of two hundred awards was made.

Within the past year, Allison has received a Camille and Henry Dreyfus Grant for Newly Appointed Faculty in Chemistry. The

Montana native is also supported by the Research Corporation and GSU.

After graduating summa cum laude from the University of Montana, Allison received his master's degree from the University of California at Berkeley. He did postdoctoral work first at the University of Oregon's Institute of Molecular Biology and then at the University of Houston. His current research involves computer modeling of reactions between enzymes and their substrates (specifically superoxidizedismutase and the free radical superoxide) as well as simulating the dynamical motions of DNA fragments in a liquid medium.

Allison's selection marks the second time since the PYI program's 1983 inception that UW chemistry alumni have received this award. Isaiah M. Warner, currently an assistant professor at Emory University and a 1977 UW doctoral student under Gary D. Christian's supervision, was among fourteen other chemists who were recipients in the program's inaugural year. Warner's work deals with analytical spectroscopy.

Africa, Turkey, the P.R.C., and the Netherlands are a few of the other countries that have invited Vandenbosch to lecture. The former UC Berkeley Ph.D. student of Glenn Seaborg has published more than 100 papers and has received numerous awards.

Receiving the ACS's 1981 Award for Nuclear Chemistry is the accomplishment that brings Vandenbosch the most satisfaction, however. Because this recognition is made by a committee of his peers, Vandenbosch says this prize has special meaning.

Vandenbosch also takes pride in the fact that the 1973 book he co-authored with John Huizenga, *Nuclear Fission* (Academic Press), has come to be recognized as the standard work in this area. Even the mainland Chinese appreciate Vandenbosch's efforts: The Chinese, unbeknownst to the authors, published an unauthorized translation of the book and were at least gracious enough to provide Vandenbosch with two complimentary copies of the text—in Chinese. Since the books arrived without a cover letter, however, it wasn't until much later that Vandenbosch realized they were his.

Originally, Vandenbosch was interested only in a research career, but he came to miss the stimulation of academia. After six years at Argonne National Laboratory and one year at the Niels Bohr Institute for Theoretical Physics as a Fulbright Fellow, he came to the UW in 1963. He holds an adjunct appointment in physics.

## CHEMISTS COLLECT KUDOS



Our scientists formerly affiliated with the UW's Department of Chemistry have recently been rewarded for either their teaching or research efforts.

James J. Champoux, a 1965 B.S. graduate in chemistry, was one of three faculty winners of the UW Distinguished Teaching Award last year. Currently a professor of microbiology and immunology, Champoux received his doctorate in biochemistry from Stanford University, which he followed with postdoctoral work at the Salk Institute. The NSF supports Champoux's research on enzymes involved in DNA replication and the American Cancer Society is funding his studies on the mechanisms of replication of RNA tumor viruses. Recipients of the UW teaching prize, which carries a nontaxable \$2,500 honorarium, are chosen by a committee of alumni, faculty, and students.

John D. Corbett, professor and former chairman of chemistry at Iowa State University, has received the American Chemical Society's 1986 Award in Inorganic Chemistry. Sponsored by the Monsanto Company, this honor recognizes Corbett's leadership in posttransition element chemistry, lanthanide and early transition metal halide chemistry, solid-state synthesis, and molten salts chemistry. Corbett, who received his 1952 UW Ph.D. working with N.W. Gregory, also has served as a senior chemist and program director at the Ames Laboratory of the Department of Energy. Additional honors received by Corbett include

the ACS Midwest Award, sponsored by the St. Louis Section, and a Senior Scientist Alexander von Humboldt Prize.

The 1985 ACS Award in Chemical Education was given to UW Ph.D. alumnus Glenn A. Crosby, who is currently a professor at Washington State University. This honor, funded by the Union Carbide Corporation, salutes Crosby for his achievements as an educator, which include chairmanship of the ACS's Division of Chemical Education, selection as the University of New Mexico's 1966 Professor the Year, a CMA Catalyst Medal for Excellence in Teaching in 1979, and the President's Award for Excellence in Instruction from WSU in 1984. Crosby's 1954 Ph.D. was supervised by P.C. Cross. He has been a Fulbright Fellow and a Humboldt Awardee.

Former UW chemistry professor Kenneth B. Wiberg is one of eight recipients of the 1986 Arthur C. Cope Scholar Awards. These recognize and encourage excellence in organic chemistry and include a \$15,000 unrestricted research grant. Wiberg taught at the UW from 1950 until 1962, when he joined the Yale University faculty. There, he investigates small strained hydrocarbons, and reports that one of the recent notable achievements was the synthesis of [1.1.1]Propellane. Wiberg, who also studies thermochemical and spectroscopic properties of organic compounds, has been a member of the National Academy of Sciences since 1967.

## CHEMISTRY EXPANSION UNDER WAY



In piecemeal fashion between now and approximately 1990, the Drama/TV Building is slowly becoming home to several chemistry faculty and facilities. Eventually, chemistry will occupy roughly 23,000 square feet in the 29-year-old, two-story structure, which lies about 200 feet northwest of Bagley's back door. Plans call for environmental chemistry faculty and laboratories, the Center for Process Analytical Chemistry's administrative offices and several labs, the X-ray diffractometers, the electronics shop, and the departmental computing facility to be located in the building, which also is scheduled to receive a new name. Emeritus faculty and the Purchasing and Accounting Offices already have moved across the alley. Medicinal Chemistry and Pharmaceuticals still occupy the third floor of Bagley Hall, and at the time of their anticipated move during the 1990-91 academic year, chemistry stands to expand another 21,000 square feet.

## FELLOWSHIP PROGRAM SUPPORTS FOUR DURING SUMMER



Chevron Fellows Norman, Nguyen, Schindele, and Ciula

One of 1985's Chevron Fellows will become a second-generation UW chemistry Ph.D. alumnus upon his graduation. The father of another Fellow never finished high school. A third Fellow helps his wife stable horses in his spare time and the fourth likes to design her own clothes.

Despite this diversity, these four graduate students share a natural talent that prompted the chemistry faculty to name them Chevron Fellows, a distinction that provided them with three months of summer support.

James C. Ciula's father, a 1959 alumnus, inspired the younger man to study chemistry. After graduating magna cum laude in chemistry and physics at California State University in Fresno, where his father was his organic instructor for a year, Ciula came

to the UW. Here, his work with Yeshayau Pocker involves studying the effects of salt solutions on pseudoaromatic compounds. After his anticipated graduation next December, Ciula would like to teach at a four-year research institution, preferably in California.

Khe Thanh Nguyen liked his senior year of high school so much he decided to do it twice. Actually, he had no choice. After finishing 12th grade in South Vietnam, he moved to Los Angeles, where he was required by the local school board to repeat his senior year. After graduating from high school, he spent two years at a community college and eventually finished his chemistry degree at UCLA. Nguyen financed his earlier college years by working summers at

Neutrogena, Inc., and he would like to return to industry, possibly to do NMR spectroscopy, after his impending graduation. Nguyen's doctoral studies with Niels H. Andersen have centered on the synthesis of Plocamadiene A.

A chance introduction at a scientific meeting where he was discussing his graduate work on the synthesis and characterization of copper complexes of species present in the biological milieu led the third Chevron Fellow, Richard E. Norman, to his current postdoctoral work. Norman has been at London's Birkbeck College for the past five months making gold phosphine complexes and investigating their utility as cancer drugs. Norman graduated cum laude from the UW and during his doctoral work with Norman J. Rose he received a dissertation fellowship from Achievement Reward for College Scientists (ARCS). Norman would like to teach and do research at a major four-year university after his work in England is finished.

The fourth Chevron Fellow, Deborah C. Schindele, eventually would like to find an industrial position making immunotoxins. Her current postdoctoral work in Brian R. Reid's synthesis laboratory making isotopically labeled DNA follows graduate study with Stanley Raucher synthesizing biologically active 8-oxo decadienes. Schindele was commissioned during the past year to rewrite the laboratory manual for the senior-level spectroscopy course as part of a special campus-wide Undergraduate Enrichment Program. She graduated magna cum laude in molecular biology and chemistry from the University of Colorado in Boulder.

## CADY TURNS 80



More than sixty people gathered last month to celebrate professor emeritus George Hamilton Cady's birthday. The fact that the noted inorganic chemist has become an octogenarian made the affair even more poignant as former students came from as far away as Massachusetts and South Carolina to honor Cady.

The party was organized by former Cady student Jean'ne Shreeve, now chairman and professor of chemistry at the University of Idaho. UW Professor Emeritus Edward C. Lingafelter served as master of ceremonies.

Cady's career has been as illustrious as it has been long. He received a Navy Meritorious Public Service Citation as well as honors from the ACS acknowledging his

Distinguished Service in the Advancement of Inorganic Chemistry. Later, the ACS's Division of Fluorine Chemistry named him the first recipient of its Creative Research in Fluorine Chemistry Award. Cady's undergraduate alma mater, the University of Kansas, bestowed upon him its Alumni Association's Distinguished Service Award fourteen years ago.

Cady served as chairman of the Puget Sound Section of the ACS, the chairman of the ACS's Division of Inorganic Chemistry, and as chairman of the UW's Department of Chemistry from 1961 to 1965. In the early 1940s, Cady went on sabbatical to work on the synthesis of fluorocarbons at Columbia University as part of the Manhattan Project.

The "Cady" name has deep chemical roots which first sprouted with Cady's father, a former professor and chairman at the University of Kansas. The elder Cady was the first chemist to discover helium in natural gas. George's two sons have carried on the tradition—the older son has become a chemist and the younger a chemical engineer.

Most of Cady's research involved the synthesis and characterization of new volatile fluorides. His 1930 Ph.D. from the University of California at Berkeley was supervised by Joel H. Hildebrand and was followed by short academic and industrial jobs before he came to the UW in 1938. Cady retired thirty-four years later.

## HIGH SCHOOL TEACHERS TO PARTICIPATE



As part of the department's ongoing efforts to improve and expand joint activities with local chemistry teachers, funding has been received to sponsor a four-week institute for high school teachers this summer.

Offered as part of the University Extension Office's Academic Program for Teachers, the institute will include intensive laboratory and lecture work and group discussions.

The State Council for Post-Secondary Education is the major source of support for this program, which will be offered for academic credit. There will be room for twenty-five teachers to participate.

Last summer, local high school chemistry teachers Douglas Mandt and Jerry Kent secured funding from the Dreyfus and Woodrow Wilson Foundations to offer a two-week institute on campus. The success of that program, as well as the popularity of the

NSF/National Science Teachers Association-sponsored Chautauqua conferences held during the past two academic years, have encouraged the department to go forward with plans to reach out even more vigorously to high school and community college teachers.

Associate Professor Darrell J. Woodman is coordinating the effort. Primary departmental faculty participants are Norman J. Rose and Alden L. Crittenden.

## 32 YEARS OF CONTINUOUS CHEMICAL SERVICE ENDS



LeRoy G. Hornbeck



LeRoy G. Hornbeck's career has spanned three decades—from beginning as a student helper in the undergraduate laboratories in Bagley Hall to retiring as assistant to the chairman and director of facilities and services in the Chemistry

Department. Although Hornbeck is retiring, he is "phasing out" just as he "phased in" by continuing on a part-time basis.

Hornbeck's secondary career as Army Reservist also has had an ironic twist. In 1957, his "fool-proof" plan of enlisting in the Reserves to avoid the draft misfired. Instead of convincing the military he was too nearsighted to serve, he wound up passing his physical and being classified 1A. Twenty-eight years later, he has changed his status from weekend warrior to full-time Army as he recently accepted the responsibilities of personnel officer at Fort Lawton in Seattle's Discovery Park.

With tongue planted firmly in cheek, Hornbeck revealed that his fondness for ruts prompted his decision to stay at Bagley Hall for thirty-two years and in the Army for the last twenty-eight. In October 1985, Hornbeck reversed priorities and began working full-time for the Army and part-time for the Chemistry Department. He was

convinced to stay on past the maximization of his retirement benefits to supervise further departmental renovation and expansion.

In a more serious vein, Hornbeck credits his own stability, the congeniality of his co-workers, and the timeliness of promotional growth opportunities for his long career records in both the state and federal governments.

Fiercely proud of his ancestral roots, Hornbeck has traced his lineage back nine generations on his father's side. The first of his relatives to reach the North American continent was Warner Van Hoornebeck in 1660. In his last extended vacation, Hornbeck attended both Scottish and British genealogical society meetings and visited old family sites with former UW chemistry professor Scott Chilton.

Recently, Hornbeck has been honing additional job skills. His youngest daughter (he has two daughters and a son) made him a grandfather in September.

## THE ORIGINAL BAGLEY ANNEX



Lois McBride Dehn, a 1916 bachelor of science chemistry alumna and widow of organic professor William Maurice Dehn, recently do-

minated this August 1914 photograph to the department's archives.

Dehn, who joined the faculty in 1907, held

the distinction not only of supervising the first UW doctoral student (Frank A. Hartman in 1914), but was himself the recipient of the first Ph.D. granted by the University of Illinois. Dehn was founder of the Chemistry Research Club and remained active past his 1947 retirement until his death in 1952.

An avid mountaineer, Dehn was joined on this particular outing to Mount Rainier by Carl B. Livingston and Frank M. Jones, both 1914 chemistry B.S. graduates; Harold S. Batchelder, a B.S. member of the chemistry class of 1917; E. D. Goldsmith, a 1913 bachelor's chemical engineering graduate; and Seth Chapin Langdon, a member of the chemistry faculty who received his UW 1914 Ph.D. under Horace Greeley Byers.

## OUTSTANDING ALUMNI



Marian O. Boehr was twenty-one years old and a senior in college when she told her father that she wanted to follow in his footsteps by becoming a physician. He responded by flatly announcing that medicine was a man's job and no woman in his family was going to enter that profession.

Today, Boehr (a 1946 bachelor of science chemistry graduate from the UW) is medical director at the 210-bed Baptist missionary hospital in Nellore, a city of 300,000 on the southeastern coast of India.

It was during her medical school days at Northwestern University that Boehr realized she wanted to be a missionary and offered to go wherever she was needed. Thirty-three years later, she is still in India, observing firsthand what she says is God's work.

Daily deprivation and hardship are staples of life in south India, where the temperature is often in triple digits. Boehr says that the thermometer will dip to a chilly 70 degrees in the winter, and jokes that last year winter was on a Thursday.

Boehr cautions that you never stick your hand in a drawer or put on your shoes without first checking for scorpions or centipedes. You also never go barefoot at night because of poisonous snakes. More than 30,000 snakebite fatalities are reported yearly in India.

Northeastern cyclone winds slam into Nellore each November. Last year, 500 people died in the storms—a relatively small number for any given year. Rainwater caught during the two-week monsoon season is stored in artificial lakes and is relied upon for the remainder of the year. Often, the water runs out before the next monsoon season.

Extended urban families live in single rooms smaller than the average American bathroom. In the villages, people live in mud huts with thatched roofs.

Conditions in Boehr's hospital, one of four serving the district headquarters and the surrounding villages, are slightly better. The hospital has one air-conditioning unit in the operating room, and only the delivery room, operating rooms, and children's ward are screened to keep out monkeys, crows, and mosquitoes. The rest of the hospital is open to take advantage of any possible breeze.

Twelve hundred pieces of hospital laundry are done daily by hand in typical Indian fashion—steamed over a fire, pounded over rocks using a clay "soap" and then dried in the sun. Surgeon's gloves are reused a hundred times, are patched when torn, and end up as eye shields or tops for I.V. bottles when they are no longer useful as gloves.



PHOTO: WALLACE ACKERMAN

Gauze and bandages are washed, sterilized, and reused until they wear out.

Electricity frequently stops, necessitating the use of flashlights and a recently acquired alternate power generator in the operating rooms. Agitators organize strikes among hospital workers as the labor union movement gains momentum. Two-thirds of the population are illiterate and one-half of the people are malnourished. Boehr works seven days a week, either performing surgery (which is her medical speciality), teaching in the nursing school associated with her hospital, or lecturing on Sundays in Baptist churches in the area.

Life is not, however, without its accomplishments and satisfactions. Boehr explained that life expectancy is at an all-time high of fifty-two years, the annual per capita income is up to a record \$150, and the incidence of infectious disease (such as polio, meningitis, and venereal disease) among the general population has decreased markedly. Other medical advances have been made due to a strong program of public health education spearheaded by Boehr.

Largely because of her efforts, babies are no longer fed daily supplements of castor oil to ease the constipation that results from not having enough mother's milk. Families had been pouring the oil directly into the babies' lungs, which had caused the babies to die of aspiration. Sterilized water now augments these babies' diets.

Despite a Herculean workload (last year her medical staff of six physicians served 6,200 inpatients and 40,000 outpatients), Boehr still finds time, usually at 4:30 a.m., to go on archaeological digs. She fancies herself an amateur paleontologist and has amassed a distinguished collection of Stone Age artifacts which is often studied by Indian Ph.D. archaeology candidates. Boehr also collects Indian stamps and enjoys painting with water color.

The former chemistry major also was a member of Phi Beta Kappa and the recipient

of an Iota Sigma Pi Outstanding Woman Award. Boehr is a native of the midwest but was raised in Portland, Oregon, where she returns for a month in the summers to see her mother. Both her mother and her late father became Boehr's strongest supporters after their initial dismay over their daughter's career choice. She plans to retire to Portland after seven more years of ministering to the medical and spiritual needs of the Indian people.



early twenty years after receiving her bachelor's degree, Nancy P. Gibbs claims to have "forgotten more chemistry at this point than [she] really ever learned." Not surprising. For the past fifteen years she has been a practicing attorney, and now at age thirty-eight she recently has become the youngest president of the Seattle-King County Bar Association.

Gibbs enjoyed chemistry but never intended to become a chemist. She saw it rather as a natural springboard into medical school. While waiting for the results of her medical school admissions test, a friend dared her to take the equivalent exam for law schools. She did, and scored in the 99.6th percentile.

With the bloom fading on the medical school rose (prompted by a few rejections and waiting-list notifications), Gibbs was at a loss as to where to send her law scores. Despite a decision made with some haste, her association with the UW law school has stretched on through the years. She is the immediate past-president of the school's alumni association.

Although it is not immediately obvious, there was a chemistry connection to Gibbs' landing her job at one of Seattle's largest law firms (Davis, Wright, Todd, Riese and Jones) right after graduation. While on a date she met Daniel B. Ritter at a University of Chicago alumni event. Ritter, who is the son of emeritus chemistry professor David M. Ritter, encouraged her to apply where he worked.

His firm, which then had thirty-three lawyers, had no women or minorities. Even though Gibbs now good-naturedly laughs about it, the interview process was grueling and by today's standards, illegal. Gibbs was interviewed by all fifteen of the firm's partners. Because she was single, there were doubts raised concerning her seriousness and whether she would continue working after marrying and having children.

In 1977 Gibbs was made a partner of the firm, which has grown to 119 attorneys and

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## OUTSTANDING ALUMNI continued from page 10

three branches. Today, Gibbs's commercial practice revolves around domestic and international banking law. She has been responsible for restructuring loans in excess of \$100 million made by American banks to Latin American countries that now cannot pay their bills. Gibbs's work also includes employer-oriented immigration law.

This year, Gibbs became head of the nation's thirty-eighth largest bar association (there are approximately 500 U.S. bars and 4,000 members in the SKCBA). In 1984, she was the delegation leader of the Seattle-King County Bar Association Trade Law Mission to the People's Republic of China. Her earlier bar work included implementation of Tel-Law, which is a free public legal information service of sixty-four tapes. She also was instrumental in the adoption of a volunteer program for lawyers to provide legal services to the poor.

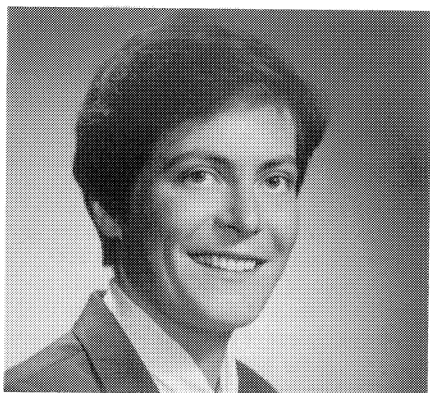


PHOTO: KENNEL ELLIS

In 1978 Gibbs was named by the Seattle Chamber of Commerce and *Time* magazine as a "Newsmaker of the Future." This award is given only once every 25 years to 100 individuals in recognition of demonstrated ability or perceived potential as community leaders. She also was selected as a Cathedral Fellow in 1983. Sponsored by a local church and the World Without War Council, Gibbs was one of twelve annual honorees who met monthly to debate disarmament and national security issues with guest speakers.

Gibbs has served on the board of a Children's Orthopedic Hospital guild, the Seattle Aquarium, the Northwest Chamber Orchestra, and on the advisory board of the Senior Rights Assistance Project. She swims, skis, bikes, and plays softball on her firm's team. Gibbs also has a seven-year-old daughter. Exposing her more frivolous side, Gibbs has produced a number of musical parodies for her firm's annual retreats. Last season's sensation was "My Fair Lawyer,"

featuring the hit tune, "Why Can't the Lawyers Be More Like the Staff?"



The perils of a prosperous career often include too many evenings out at the company's expense and too many nights spent in hotels traveling on company business. However, UW chemistry Ph.D. alumnus Klaus A. Saegebarth doesn't regret for one minute having spent the last twenty-eight years working his way up at the E. I. Du Pont de Nemours Company.

As one of only ten directors of research and development at the nation's seventh-largest company, Saegebarth has supervisory responsibilities for nearly 1,000 people and oversees a budget in excess of \$100 million. Although this job, and several other managerial posts before it, have removed him from hands-on science, Saegebarth points with pride to the strides made by his Agricultural Research and Development Division, a division that researches the control of pests such as weeds, insects, and fungi. Saegebarth notes that Du Pont's Glean®, a herbicide used for the control of weeds in cereal crops, has revolutionized the market by accomplishing with a few grams what once took several pounds of chemicals. As a sequel, and in what may be a company record, Saegebarth's highly productive organization has discovered and developed twelve additional major, low-use rate, crop-protection products that will be commercialized this year and next.

Saegebarth spent his first eight years at Du Pont in active polymer research conducting Ziegler-Natta coordination catalysis for the preparation of elastomers. He was a supervisor for two years, worked for five years in research and development management, and then six years in various business assignments in marketing. He eventually was named director of research and development in the Fabrics and Finishes Department in 1978. At the beginning of 1980, he was selected to head the Agricultural Research and Development Division in the Agricultural Products Department.

Saegebarth's business travels have taken him all over the world, which may have something to do with his claim that he completely relaxes only at a second home he and his wife have owned for the last six years on Florida's Sanibel Island. His avid interest in drawing and wood carving grew out of a need to furnish the walls of his vacation retreat with artwork. Saegebarth also enjoys playing golf and nonmandatory gardening.

In addition to serving as a member of the UW Department of Chemistry's Industrial Advisory Committee, Saegebarth also participates on USDA task forces. He is active in dealing with the problem of retaining and upgrading the skills of agriculture school faculty, noting that some people feel that the



PHOTO: DU PONT

best molecular biologists and agronomists are lured away from education into more lucrative industrial positions. For his own part, Saegebarth has recognized excellence in chemistry by endowing the Erich O. Saegebarth Prize for a graduating senior at his undergraduate institution, the University of California at Berkeley. This prize is in memory of Saegebarth's father, a Ph.D. organic chemist whose job in the petroleum business was responsible for the family's move from Berlin. The elder Saegebarth died in 1984.

Saegebarth was born in Germany in 1929 and moved with his family to the United States three years later. After a stint in the Army Medical Service, he received his bachelor's degree in 1953. Under K. B. Wiberg's supervision, Saegebarth received his doctorate from the UW in 1957. His thesis, which included the permanganate oxidation of olefins, was entitled "A Study of Some Hydroxylation Reactions."

Saegebarth describes his wife of the last thirty-two years as a "professional do-gooder." The former Mary Ann Douglass is active in the auxiliary of the local hospital and serves as a guide in a Wilmington museum. They have three grown children: Eric is a stock broker, Katherine is a fashion designer, and Margaret is in the hotel business in New York. They have one grandchild.

As Saegebarth reflects on his career and anticipates a mandatory retirement in eight years, he says that he won't be quite ready for a retirement village. Academic administration holds some interest for him, and Saegebarth says he wouldn't mind a few more years of business dinners—as long as he continues to weigh what he did at age 18.

## ALUMNI TIDBITS

**A** MILTON H. ANDRUS, JR. (Ph.D. 1967) is a senior chemical specialist for the 3M Company in St. Paul, Minnesota. He attended an advanced diploma course in organic chemistry at the University of Florida last year and also gave papers at an ACS meeting in St. Louis and at the International Symposium on Polymer Colloids in Montreal in 1984.

**B** CAROL S. BALE PACE (B.S. 1976) has moved with her family to Steilacoom, Washington, where she works at home taking care of her two sons. . . . EMIL H. BERGER (B.S. 1936 and M.S. 1941) earned his medical degree in 1949 from UC San Francisco. He retired from practice in 1980. . . . MICHAEL S. BIENN (B.A. 1968) is the manager of the Natural Sciences Department at Pacific Testing Laboratories in Seattle. He earned a master's degree in Planning and Geography from South Dakota State University in 1978.

**C** HSIEN-HSIN CHANG (Ph.D. 1974) recently joined the Nutra Sweet Group of G. D. Searle and Company. Previously, he had been with the Quaker Oats Company in Illinois. . . .

OSCAR E. CHAVES (B.A. 1979) works as a quality control analyst for the Mobil Oil Corporation in Bogotá, Colombia. . . . STANLEY HSI-KWEI CHIANG (Ph.D. 1952) is professor and chairman of the Department of Physical Organic Chemistry at the Shanghai Institute of Organic Chemistry. Since 1983, he has been invited to lecture at leading universities in the United States, Japan, and Canada and plans to return to the U.S. for another lecture tour later this year.

**D** GORDON K. DAVIS (B.A. 1958) has been teaching chemistry at Woodway High School in Edmonds, Washington, since 1968, the same year he received his master's degree in biochemistry. Davis spent 1981 as an exchange teacher in Australia and writes that most of his summers are involved in biological field studies in Africa, Australia, the Arctic, or other parts of the world. . . . JOHN E. DOUGLAS (Ph.D. 1952) has been vice provost for graduate study and research at Eastern Washington University in Cheney, Washington, for about six years.

**E** M. RANDY ENSMINGER (B.S. 1978)

finished his UW medical degree in 1983 and is doing a family practice residency in Scottsdale, Arizona.

**F** GARY T. FORREST (M.S. 1971) has started his own company, Quantum Associates, in Menlo Park, California, which specializes in the development and marketing of lasers and laser-based analytical equipment, such as infrared fiber-optics, gas monitors, and semiconductor lasers. Forrest earned his undergraduate degree at Cornell University and his 1976 Ph.D. at MIT.

**H** FRANK D. HAMMITT (B.A.s in chemistry and oceanography 1971) is a lieutenant commander in the United States Navy. Stationed at Kirtland Air Force Base in New Mexico, Hammitt is a submarine ballistic missile specialist assigned to the multiservice Defense Nuclear Agency. There, he is responsible for nuclear weapons safety, security, and personnel reliability on U.S. nuclear capable units worldwide.

**I** KATHLEEN A. IBERLE (M.S. 1982) earned an additional master's degree at the UW in com-

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## SENIOR AWARDS SPONSORED BY MERCK



**Oates, Alvin L. Kwiram, and Hill**  
Four years ago, Brian S. Hill became a diabetic. Today, he is a Marvel Fellow in the University of Arizona's chemistry graduate program researching ways to purify insulin by antibody techniques and working on the development of glucose electrodes.

Kenneth M. Oates will be one step closer to his childhood dream of becoming a medical astronaut when he enters the University of Pennsylvania's Medical School this fall. Like Hill, Oates' career goals have been in-

fluenced by personal factors—his father is a UW professor of aeronautics and astronautics.

If their past is any indication, these two students will probably carve out sizeable niches in their respective professions. Already they've left their mark in the UW Department of Chemistry by being named recipients of the 1985 Merck Index Award.

This prize, funded by the Merck Company, is another in a long line of commendations for Oates. In addition to being

named the University Medalist during his sophomore and junior years, he was the first honoree of the College of Arts and Sciences's Natural Sciences Medal. Oates received two honors scholarships and in 1983 was the recipient of the Hyp Dauben Award, recognizing the best student in the honors organic chemistry sequence.

Hill was awarded the Department of Chemistry's Edward and Clara Degering Undergraduate Tuition Scholarship during his junior year. His graduate fellowship will release him from teaching responsibilities during his first year at Arizona.

Both Seattle-area natives want eventually to return to the Pacific Northwest, where they have enjoyed outdoor activities. Oates rowed on the Husky lightweight varsity crew team for three years, and he has climbed all of Washington State's major mountains. Hill is a marathon runner who has participated in approximately fifteen races since taking up the sport two years ago. Hill, who also earned a degree in molecular biology, enjoys white water rafting as well.

Gary D. Christian was Hill's undergraduate research supervisor and Niels H. Andersen co-directed Oates's work. Oates is spending the current academic year as a research technician in the Department of Bioengineering while his wife completes her nursing program at the University.

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## DEPARTMENT OF CHEMISTRY UNIVERSITY OF WASHINGTON ALUMNUS REPORT

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Name \_\_\_\_\_ Degree(s) at U of W \_\_\_\_\_ Year(s) \_\_\_\_\_

Home Address \_\_\_\_\_

Other Degree(s) \_\_\_\_\_ Institution(s) \_\_\_\_\_ Year(s) \_\_\_\_\_

Position \_\_\_\_\_ Organization \_\_\_\_\_

Business Address \_\_\_\_\_

News Notes:

Comments and Questions:

News of Other Graduates:

Date \_\_\_\_\_ Signed \_\_\_\_\_

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## ALUMNI TIDBITS

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puter science two years after completing her work in chemistry. She has been employed at Hewlett-Packard in Everett, Washington, as a software engineer since January 1985. . . . ROBERT C. IRETON (Ph.D. 1974) is chief of the Urology Section at Seattle's Veteran's Administration Hospital. He is an assistant professor in the Department of Urology at the UW Medical School, where he earned his 1979 medical degree.

**K** ROBERT R. KINTNER (Ph.D. 1957) has been spending the year on the Munich, Germany, campus of the University of Maryland teaching undergraduate chemistry courses to children of service personnel and government workers stationed in Europe. Kintner is professor and chairman of the Chemistry Department at Augustana College in Sioux Falls, South Dakota. . . . THOMAS E. KNOX (B.S. 1979) has finished his second year of residency in adult psychiatry at Cornell Medical Center. He completed his formal medical training at Johns Hopkins University in 1983. . . . RAYMOND KUSUMI (B.S. 1981) has recently been hired by the Washington State Crime Laboratory in Seattle. Previously, he had worked for Olympic Stain.

**L** HAROLD K. LATOURETTE (Ph.D. 1951) writes that after living in the East for many years, he has moved back to the West Coast and presently lives in Anacortes, Washington. . . . TIMOTHY LOVELL (B.S. 1981) finished his medical degree this past year at the UCLA School of Medicine. He has returned to Seattle for an internship in general surgery at Virginia Mason Hospital. That will be followed by a residency in orthopedic surgery at University Hospital.

**M** S. RAE MACKAY (M.S. 1982) is a systems analyst and planner for the UW with specific responsibilities for the on-line patient registration system. . . . JAMES A. MARICLE (B.S. 1950) took early retirement after 31 years with the Mobil Oil Corporation. From 1968 until his 1984 retirement, he was head of environmental affairs at the company's Ferndale, Washington, refinery. . . . KIM MELLOR (B.S. 1981) graduated from the UW Medical School in 1985 and is doing a family practice residency in Ventura, California. . . . WESLEY MINNIS (M.S. 1916) is now living in Ocean City, New Jersey. He received his 1922 Ph.D. from the University of Michigan and worked for many years at Allied Chemical Corporation. Also during his career, he was a lecturer at the Newark College of Engineering and a consultant to the New Jersey State Department of Higher Education.

**N** PETER C. NALOS (B.S. 1976) went on to finish his M.D. degree from the UW in 1981. He has been a cardiology fellow in the Electrophysiology Division at Cedars Sinai Medical Center in Los Angeles. There, his research centers on sinus node recovery times with autonomic blockade. . . . PAUL NUTKOWITZ (Ph.D. 1967) accepted a part-time position last year as director of market research for FMR Communications, Inc., a new marketing and advertising agency located in Lawrenceville, New Jersey. He is also a senior engineer for the N.J. State Department of Transportation.

**P** ALEXANDER M. PARTANSKY (Ph.D. 1935) also earned his bachelor's and master's degrees from the UW. In last year's *Alumnus Report*, he recalled that Tommy Thompson was the man responsible in 1928 for Partansky's change of major from oceanography to chemistry. After earning a record number seven As in Thompson's quantitative analysis course, the professor of chemical oceanography told Partansky he was in the wrong field. The former Dow Chemical Company research group leader retired in 1970 and now lives in Concord, California. . . . CHRISTINA M. PETERSON (B.S. 1981) began her internal medicine residency this past summer at the University of Florida in Gainesville. She earned her medical degree from the University of Iowa. . . . JAMES PSOMAS (B.S. 1981) has returned to his hometown of Spokane, Washington, after finishing up at the UW Dental School. . . . PAUL M. PUZISS (B.A. 1963) has been practicing orthopedic surgery in Portland, Oregon, for the last six years. His 1967 medical degree is also from the UW.

**R** NARENDRA N. ROY (Ph.D. 1970) is an assistant professor in the Department of Chemistry at the Regional Institute of Technology in Jamshedpur, India. Last November, Roy presented a poster on the "Metal Transport Phases in Rivers Around Jamshedpur" at the Third International Congress on Analytical Techniques in Environmental Chemistry in Barcelona, Spain. He also has done work at the University of Georgia in Athens on the characterization of bonded stationary phases by HPLC.

**S** GREGORY W. SHIELDS (B.A. 1976) is a clinical professor of medicine at the University of South Carolina. He also has a private practice in pulmonary and critical care medicine in Florence, South Carolina. Shields's advanced training in these areas was done at Vanderbilt University, where he also earned his 1980 M.D. degree. . . . MARY ELIZABETH SWANEY CHAPMAN (B.S. 1935) has lived in San Diego, California, for the last 35 years. She is the widow of WILBERT MC LEOD CHAPMAN (Ph.D. Fisheries 1937) who was one of the first 12 Washingtonians to be selected by the Washington State Historical Society in 1981 for inclusion in the State Hall of Honor.

**T** SAMUEL E. TRUEBLOOD (B.S. 1945) earned his medical degree from the University of Oregon Medical School in 1948. He is a psychiatrist with a private practice in Beverly Hills, California.

**Z** BENJAMIN M.G. ZWICKER (Ph.D. 1941) has retired from the chemical industry and is currently involved in the Institute of Continued Learning at the University of California in San Diego, where he is chairman of the Bio-Med and Science Program. He is also active in the Scripps Institute of Oceanography's Meet the Scientist Program, which encourages high school students to explore careers in science.

## RHODES

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two-year Rhodes Scholarship to complete the work for her doctorate. That was not the only special request Klevit made. Prior to the start of her second year in England, she had to ask Sir Edgar's permission to marry, an act that generally is frowned upon for the Rhodes Scholars. Klevit notes that she did not even ask her father's permission to marry, but there was no getting around Sir Edgar.

Klevit's first postdoctoral position was with Thomas C. Vanaman at Duke University where she furthered her work isolating and characterizing calmodulin protein. Following that, Klevit joined Brian R. Reid's group at the UW with the support of an American Cancer Society Post-Doctoral Fellowship. Last year, Klevit received an NIH New Investigator Research Award to study proteins in solution using two-dimensional NMR techniques.

## FACULTY

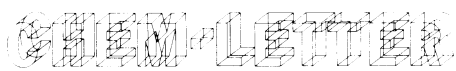
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Gelb's return to the West Coast (he was born in Los Angeles and earned his undergraduate degree at the University of California at Davis) follows postdoctoral work at Brandeis University. There, he was an American Cancer Society Fellow in Robert H. Abeles's laboratory, working on the design of new types of inhibitors of proteolytic enzymes that may have medicinal value. This work led to development of new types of drugs for the treatment of hypertension, which have been patented recently and are currently being tested in animals.

He also did earlier postdoctoral work on the enzymatic synthesis of peptides at Yale University. It was in New Haven that Gelb's doctoral thesis with Stephen G. Sligar on "Oxygenase Catalysis by Cytochrome P-450" was completed in 1982.

The design of new inhibitors of proteolytic enzymes was the subject of Gelb's talk at a Gordon Conference last summer. Earlier in the year, he addressed an NIH workshop on the treatment of emphysema and was invited to speak at two East Coast pharmaceutical companies. At the UW, Gelb intends to continue to design and synthesize enzyme inhibitors as a tool to understand enzyme reaction mechanisms and as a first step toward the development of novel pharmaceuticals. In support of this work, the Merck Company has recently given him a New Faculty Development Award.

Gelb's wife, Heidi Horowitz, is a molecular biologist with research interests in the structure of chromosomes in yeast.



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