ACS 1995 National Award Winners

Following is the third group of vignettes of winners of awards administered by the American Chemical Society. Winners will receive their awards during the spring 1995 209th ACS national meeting in Anaheim, Calif., with the following exceptions: The Cope Medalist and the Cope Scholars will receive their awards at the fall 1995 210th ACS national meeting in Chicago, at the Arthur C. Cope Symposium. The ACS Award for Creative Work in Fluorine Chemistry is scheduled for presentation at the 12th Biennial Winter Fluorine Conference, Jan. 22–27, 1995. The Roger Adams Award in Organic Chemistry will be presented at the 34th National Organic Symposium, June 11–15, 1995. The awards in Anaheim will be presented at a banquet on Tuesday, April 4, 1995. Vignettes of the remaining award winners will appear in successive November issues of C&EN.

ACS Award for Computers in Chemistry

Sponsored by Digital Equipment Corp.

AMBER, one of the most widely used software packages for studying the interaction of complex molecules by molecular mechanics and dynamics simulations, was developed by **PETER A. KOLLMAN.**

For more than 20 years, Kollman has been a pioneer in the fields of computational chemistry, biochemistry, and medicinal chemistry. He is also regarded as one of the fathers of computational biochemistry, says a colleague. In 1981, Kollman, with postdoctoral fellow Paul Weiner, introduced his widely distributed and most well-known achievement, a software program called AMBER: Assisted Model Building with Energy Refinement.

One of the earliest members of the computational chemistry community, Kollman began his studies of biological molecules in 1971, when he joined the faculty at the University of California, San Francisco (UCSF). He is a professor of chemistry and pharmaceutical chemistry in UCSF's School of Pharmacy, department of pharmaceutical chemistry. AMBER has been distributed to more than 500 laboratories throughout the world. It is used by pharmaceutical companies and academicians to aid the development of pharmaceuticals and proteins that could be used as catalysts by probing structure, dynamics, and energetics. The program is also useful in studying the binding of ligands, which is at the heart of the extensive ongoing efforts at rational drug design.

Kollman has also encouraged chemists and biologists to use sophisticated modeling techniques to study complex organic and biological molecules. His computer-based research has often been synergistic with experimental work in that his calculations have been able to predict the results of experiments, suggest new experiments, and give mechanistic insight into the results of experiments.

His research program, says another colleague, is characterized by exceptional breadth, effecting a major impact on computational chemistry at large. Kollman and his group have also been at the leading edge of the rapid development of free energy methods. In 1989, he surprised many with his prediction for the binding of a thermolysin inhibitor, which was confirmed by subsequent experiments. Kollman's group has led the development of the next generation of intermolecular potential functions, which incorporate explicit polarization effects.

Kollman received a B.A. degree in chemistry in 1966 from Grinnell College, Grinnell, Iowa, and M.A. and Ph.D. degrees from Princeton University in 1967 and 1970, respectively. Then Kollman took a North Atlantic Treaty Organization postdoctoral fellowship at Cambridge University until 1971. He moved to UCSF in 1971, becoming a full professor in 1980.

Kollman was the first elected chairman for the Gordon Conference of Computational Chemistry in 1988. From 1992 to 1994, Kollman held the position of president of the International Society of Quantum Biology & Pharmacology, where he was on the executive committee from 1979 to 1982. He has served on the editorial boards of *Biopolymers*, the *Journal of Medicinal Chemistry*, the *Journal of Computational Chemistry*, *QSAR*, the *Journal of Computer Assisted Molecular Design*, and *Computers in Chemistry*. He has published more than 300 papers, trained more than 40 graduate students and postdoctoral fellows, and has been in high demand as an invited lecturer worldwide.

James Bryant Conant Award in High School Chemistry

Sponsored by Albemarle Corp.

ROBERT J. LEWIS has taught high school chemistry for 25 years and during that time has not only influenced his students to further their studies in chemistry but has also inspired other teachers to find novel approaches to teaching chemistry.

As a teacher at Downers Grove North High School in a suburb of Chicago, he has inspired 42 of 140 of his advanced chemistry students to major in chemistry or chemical engineering. Of 550 students he has taught over a five-year period, only eight have not taken at least one more year of science. And eight of his former students are high school chemistry teachers.

Along with other teachers, Lewis has also developed a series of presentations under the rubric of "Weird Science." The presentations are fast-paced displays on chemical and physical phenomena that inspired one teacher, who observed one of Lewis' many demonstrations at science educators' conferences, to say it "turned me back on to teaching. It put life back into my classes and started me thinking about how to make my classes more exciting."

In addition, Lewis was a catalyst in the formation of a Chicago area chemistry teachers' support group called Chemistry West—a service organization in which chemistry teachers help one another to solve problems related to instruction. Chemistry West has also served as a stimulus for similar groups in other parts of Illinois, New York, South Carolina, and Wisconsin.

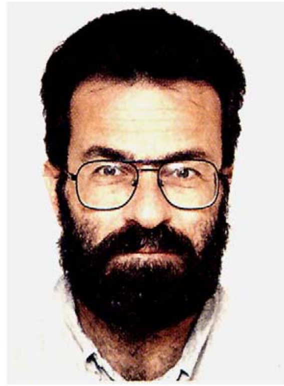
One student who had advanced as a Ph.D. candidate in biophysics when she wrote in support of Lewis' nomination for this award noted that Lewis "was famous among students for the exciting, and often wacky, demonstrations he performed to get concepts across." One such demonstration, an introduction to electron transitions, is a 25-minute pantomime in which Lewis portrays an electron. He begins in a low-energy state. A student "excites" Lewis with a Tesla coil. The class watches as Lewis jumps to a higher energy level on a series of numbered boxes and chairs. Students then observe as Lewis dances around at the high-energy level and then "falls" to a lower energy level throwing off a red ball to indicate the release of a photon.

Lewis' sense of humor also inspires others teachers and students, say his colleagues. He wears T-shirts that say things such as, "It's Amino World." He wears a tie-dyed lab coat with color-coordinated safety glasses. He has designated one day of the year as "Mole Day," when he intentionally confuses the animal with gram molecular weight. On that day, Lewis dresses in a mole costume, students wear mole badges, and mole jokes are the vogue.

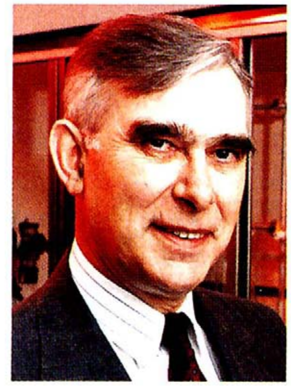
One colleague describes Lewis as a risk taker who involves his students in the process of learning. "There is an energy in his classroom that explodes, sometimes literally, throughout the school. He has been a catalyst within the school to initiate more creative methods of teaching. Our hope is that he does not run out of energy."

Lewis received a B.S. degree in chemistry from North Central College, Naperville, Ill., in 1969 and an M.A. degree in science teaching from the University of the South, Sewanee, Tenn., in 1974. He held his first teaching position at Aurora West High School, Aurora, Ill., from 1969 to 1970, and has taught at Downers Grove North High School from 1970 to the present.

He has received numerous other awards for his teaching accomplishments, including the 1989 Davidson Award from the Chemical Industries Council of Illinois, the 1990 Presidential Award for Excellence in Science & Mathematics Teaching, the 1993 Great Lakes Regional Award in High School Chemistry Teaching, and the 1993 Chemical Manufacturers Association Regional Catalyst Award.


Kollman


Lewis


Los

ACS Award for Creative Invention

Sponsored by Corporation Associates

MARINUS LOS, director of crop sciences research at American Cyanamid, is the inventor of imidazolinone herbicides, "one of the major developments in the history of agricultural chemicals," in the words of a colleague.

A group of user-friendly compounds that have dramatically changed weed control technology worldwide, imidazolinones exhibit broad-spectrum activity, varied crop selectivity, and an unusual degree of human and environmental safety. They are efficacious at rates of ounces per acre rather than the pounds per acre needed for previous herbicides. They act by inhibiting acetohydroxyacid synthase, an enzyme present only in plants, and thus are essentially nontoxic to humans and wildlife. They also do not accumulate in the environment or leach into groundwater.

Four imidazolinone products were introduced by Cyanamid during the 1980s, with two more in advanced development, and the compounds have achieved significant commercial success. Further spurring of sales is expected through breeding of imidazolinone-tolerant crops. The first crop is corn, put on the market in 1992 by a seed company.

Discovery of the imidazolinones had its start in a random screen for herbicides at Cyanamid in the early 1970s that came up with a compound that was serendipitously converted to a plant-growth-promoting material. During some 14 years of research, Los led a journey through chemical changes that shifted biological activity from plant growth promotion to herbicidal action—with structural features of the original compound barely discernible in the first member of the new herbicide class. Los holds 28 U.S. patents on imidazolinones and is joint inventor on five others.

A colleague calls Los "an outstanding organic chemist, strong in synthesis strategy and methodology, who also has an enduring interest in important biochemical pathways and the mode of action of pharmaceuticals and agrochemicals."

Los already has been honored for his work on imidazolinones with two of the highest awards open to U.S. scientists: the National Medal of Technology in 1993 and the Perkin Medal this year. He also was honored as the Distinguished Inventor of 1990 by Intellectual Property Owners Inc. He holds a total of 56 U.S. patents and numerous foreign patents on synthesis and use of steroids, plant growth regulators, and herbicides.

Born in the Netherlands, Los became a U.S. citizen in 1967. He received a B.Sc. degree in chemistry in 1955 and a Ph.D. degree in organic chemistry in 1957, both at Edinburgh University in Scotland. After postdoctoral work at the National Research Council in Canada, he joined Cyanamid's agricultural research division in 1960.

Earle B. Barnes Award for Leadership in Chemical Research Management

Sponsored by Dow Chemical Co.

LEO E. MANZER, director of DuPont's Corporate Catalysis Center and associate director of the Central Science & Engineering Laboratories, is well known for his interest in catalytic processing, particularly for directing the catalyst research program to replace ozone-depleting chlorofluorocarbons (CFCs) with more benign hydrofluorocarbons (HFCs) and hydrochlorofluorocarbons (HCFCs). He worked very closely with R&D managers of DuPont's Fluorocarbons Division to develop and commercialize CFC alternatives in record time. DuPont now operates seven HFC and HCFC plants. The company has the capacity to produce more than 100 million lb per year of the principal HFC, HFC-134a. It all began from "ground zero" in 1987.

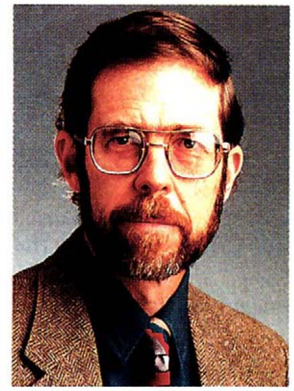
The HFC development program is remarkable, among other things, because of the unusually intense managerial pressure both from within and outside of the company. Catalysis research had been in decline for some time, mostly because it was perceived as a mature art that had reached its zenith. Manzer was one of the few who disagreed and supported his progressive ideas with profitable results. His revamping of the Corporate Catalysis Center at DuPont has been a model for other companies in which catalysis research has also languished.

Pressure from outside the company came mainly from environmental advocates reluctant to accept the idea that a chemical company would, or could, do anything to benefit the environment. By delivering more than 100 lectures at universities and conferences globally, Manzer managed to convince a number of them that the HFC development program was a valid and farseeing solution to a major problem and a bona fide demonstration of responsible corporate citizenship. The effects of CFC replacement are starting to be observed with increasing interest from environmentalist groups.

Other R&D programs in Manzer's catalysis center include a new process for tetrahydrofuran and butanediol and a new adipic acid process. The latter may become the most important of all from the financial viewpoint. Other interests extend to agrochemicals and fine chemicals. These have not traditionally been beneficiaries of catalytic research and there is occasionally some reluctance to accept new catalytic chemistry in these areas. Manzer has successfully dealt with some of this resistance.

In the current DuPont corporate restructuring, the departmental research organizations are gradually disappearing in favor of the Central Science & Engineering Laboratories. Among other things, this means that the new strategic business units will be shifting longer term research and development to the central research departments. Manzer's Corporate Catalysis Center is one of these and, so far, has made an enviable name for itself inside and outside of DuPont.

Manzer



McMillen

His intense interest in catalysis and the commercialization of results has not limited Manzer's appreciation for societal problems. He is firmly convinced that industry is not an adversary of society. Few have been more successful in putting that idea across. He firmly believes that good corporate citizenship is as important as profitability. Progressive companies pursue both. Manzer's major contributions have been converting ideas into reality.

Manzer received a B.Sc. degree in chemistry from the University of Waterloo, Ontario, in 1970 and a Ph.D. degree in chemistry from the University of Western Ontario, London. He is a member of the North American Catalysis Society and the Japanese Catalysis Society.

Henry H. Storch Award in Fuel Chemistry

Sponsored by Exxon Research & Engineering Co.

The understanding of the complex chemistry of coal liquefaction has been advanced considerably by the research of **DONALD F. MCMILLEN,** senior staff scientist in the Molecular Physics Laboratory at Stanford Research Institute (SRI), Menlo Park, Calif. McMillen has made researchers in the field aware of the complexity of the radical processes involved in bond cleavage of heavy hydrocarbon reducing systems.

The chemistry of coal conversion had been dominated by the rule that decomposition of coal structure derives mostly from thermolysis of coal's inherently weak carbon-hydrogen bonds. To achieve better liquefaction, researchers primarily worked on finding better radical scavengers so that radical fragments formed by thermolysis would be stabilized before they underwent retrogressive reactions.

McMillen's research showed that something more was going on than various donor solvents used as liquefaction agents could explain. He subsequently discovered a new class of hydrogen-transfer reactions that shift hydrogen from a radical species to a closed-shell molecule. These reactions can cause cleavage of bonds that once were thought too strong to be broken by thermolysis alone. This category of hydrogen transfer has been given the generic name radical hydrogen transfer.

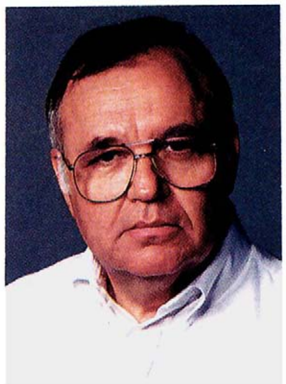
The recognition of strong-bond hydrogenolysis has caused a marked change in the role of the liquefaction medium from one of a passive scavenger that comes into the reaction after thermolysis into one of an active reagent responsible for breaking bonds.

Extending this work, McMillen is looking at the role of induced bond scissions during coal pyrolysis. In this scheme, the coal itself acts as a source of radicals and scavengers. This research has led to studies on coal pyrolysis using a unique entrained-flow laser.

The impact of McMillen's research has been a paradigm shift in coal science with the recognition that a wide range of potential chemistries are involved in coal conversion. As one of his colleagues writes, "Don McMillen has changed the way fuel scientists think."

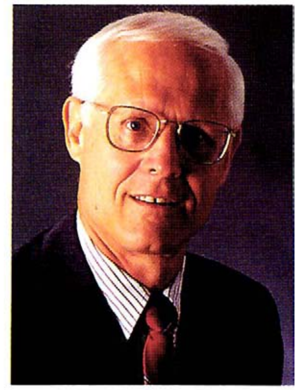
McMillen received a B.S. degree in chemistry from the University of Notre Dame in 1963 and a Ph.D. degree in organic chemistry from Stanford University in 1967. He has been on the staff of SRI since 1969.

ACS Award for Nuclear Chemistry



Natowitz

Ogawa



Overman

JOSEPH B. NATOWITZ, professor of chemistry at Texas A&M University and director of the Cyclotron Institute there, has amassed a distinguished research record in the area of medium-energy heavy-ion nuclear reactions. According to one colleague, he is probably the world's foremost authority on the heavy-ion fusion process.

Natowitz received a Ph.D. degree in nuclear chemistry at the University of Pittsburgh in 1965. After two years as a postdoctoral research associate at the State University of New York, Stony Brook, he joined the faculty of Texas A&M. Natowitz was attracted there by the new cyclotron that had just been completed in 1967. "Starting from ground zero, he soon developed a productive program in heavy-ion nuclear reaction studies, and over the years built it into one of the very best in the world," says a colleague.

Natowitz and his collaborators have made a number of seminal contributions to the understanding of heavy-ion-induced nuclear reactions. They have spearheaded the study of light particle emission to provide important experimental tests of the predicted thermodynamic properties of nuclei at the limits of their stability. Natowitz also has contributed in a major way to the current understanding of the role of angular momentum in nuclear fusion reactions and delineation of the properties of strongly damped nonfusing collisions.

The large number of papers Natowitz and his coworkers have published in *Physical Review Letters* is convincing evidence of the impact he has had on the field. He made numerous contributions to the understanding of fusion reactions between complex nuclei long before the field became popular. A leading nuclear chemist at another university once wrote, "It is interesting to see how many of the topics originally pursued by J. B. Natowitz that have been widely picked up as major areas of current interest in nuclear science."

In recent years, Natowitz's group has turned its attention to studies of the properties of hot nuclei, which are of great interest relative to astrophysical questions. Through ingenious data analysis techniques, he has been able to show that the nuclear level density parameter undergoes a transition from its ground-state value to the Fermi gas value at excitation energies around 200 MeV.

Shalom Shlomo, a theorist at Texas A&M, developed a model to explain this observation. The model predicts important mass-dependent effects that have now been verified by Natowitz's group. The group has also demonstrated the existence of important dynamical effects in the de-excitation of hot nuclei.

In his work, Natowitz has collaborated with scientists all over the world. However, his numerous research and other professional activities have not been performed at the expense of his dedication to teaching. According to a Texas A&M colleague, Natowitz "is acknowledged to be one of the finest teachers" in the chemistry department.

This colleague also notes that Natowitz's "strict adherence to the very highest standards of excellence and his outstanding success in creating a world-class research program have earned him the honor and respect of the international nuclear science community."

Claude S. Hudson Award in Carbohydrate Chemistry

During the past 20 years, **TOMOYA OGAWA** and his colleagues have developed several strategies and methods to synthesize and study complex plant and animal carbohydrates. In 1976, he introduced tin(IV)-mediated activation of hydroxyl groups and new strategies for stereocontrolled silylation using phenylthio or phenylseleno auxiliary groups. And Ogawa holds the record for the synthesis of complex polysaccharides containing up to 25 monosaccharide units.

Ogawa began his research career in 1968 as a research scientist in the laboratory of pesticide synthesis at RIKEN (Institute of Physical & Chemical Research). Since 1979, he has served as head of RIKEN's synthetic cellular chemistry department. Since 1990, Ogawa has concurrently served as a professor of cellular biochemistry in the University of Tokyo's School of Veterinary Medical Sciences.

According to one colleague, "His recent contribution to the syntheses of glycolipids, glycoproteins, proteoglycans, and sulfated polysaccharides and many other complex carbohydrates occurring in plants and animals demonstrates his leadership in the field."

The award winner received a B.S. degree in agricultural chemistry in 1962 and a Ph.D. degree in organic chemistry in 1967, both from the University of Tokyo. He conducted postdoctoral research in carbohydrate chemistry at the University of Montreal from 1972 to 1974.

Ogawa received the Society of Agriculture & Biological Chemistry Award in 1978, was elected a fellow of the Royal Society of Chemistry in 1981, received the Japanese Minister of Science & Technology Award in 1982, won the Okichi Prize and was awarded the International Carbohydrate Award (Whistler Award) in 1984, received the Upjohn Fellowship Award for Scientific Research in 1988, the Alexander von Humboldt Research Award in 1991, and the Haworth Memorial Medal in 1993. A sought-after speaker, Ogawa, since 1977, has given 28 invited and plenary lectures.

He currently serves on the editorial board of six international journals including *Bioorganic & Medicinal Chemistry Letters*, *Carbohydrate Letters*, *Chemtracts Organic Chemistry*, *Carbohydrate Research*, *Glycoconjugate Journal*, and the *Journal of Carbohydrate Chemistry*.

ACS Award for Creative Work in Synthetic Organic Chemistry

Sponsored by Aldrich Chemical Co.

"A remarkable and productive union of synthetic methodology and total synthesis of complex natural products" is how one colleague describes the contributions of **LARRY E. OVERMAN,** distinguished professor of chemistry at the University of California, Irvine. The insight and creativity evident in Overman's work, as well as his ability to develop reactions and apply them to the construction of complex molecules, have contributed to the award winner's broad impact on the field of synthetic organic chemistry.

Overman's laboratory has invented several chemical reactions that are of particular value for the synthesis of complex chemicals containing nitrogen, including several pharmaceutical agents. The hallmarks of his work are its high intellectual originality, breadth, and utility.

Between 1991 and 1993 alone, Overman and his group reported the total synthesis of 19 natural products. In most instances, his was the first reported synthesis of the natural product, and each synthesis featured chemistry developed in his laboratory as the key strategic element.

Examples of synthetic methodology developed by the award winner are the allylic imidate rearrangement, the first useful method for transposition of oxygen and nitrogen functionalities; cyclization-induced [3,3]-sigmatropic rearrangements of allylic imidates, a catalytic method that is applicable to reactions of other allylic compounds including carbamates, thionoesters, esters, and thioimidates; and the sequential aza-Cope-Mannich rearrangement, one of the few fundamentally new methods for alkaloid synthesis developed in the past two decades and the method by which Overman recently achieved the notable first asymmetric total synthesis of strychnine.

Overman received a B.A. degree in chemistry from Earlham College, Richmond, Ind., in 1965, and a Ph.D. degree in 1969 in organic chemistry from the University of Wisconsin, Madison. In 1971, after postdoctoral work at Columbia University, he joined the faculty of the chemistry department at UC Irvine as an assistant professor. Overman was promoted to associate professor in 1976 and to full professor in 1979. He served as chairman of the department from 1990 to 1993.

He has received a Guggenheim Fellowship (1993–94), an Arthur C. Cope Scholar Award (1989), the Alexander von Humboldt U.S. Senior Scientist Award (1985–87), as well as other awards and honors. Overman is on the scientific advisory board for Pharmacopeia Inc., the board of directors for *Organic Reactions,* and the editorial boards of *Organic Syntheses, Organic Reactions,* and *Contemporary Organic Synthesis.*

ACS Award in Analytical Chemistry

Sponsored by Fisher Scientific Co.

The professional career of **HARRY L. PARDUE,** professor of chemistry at Purdue University, West Lafayette, Ind., is marked by his exceptional ability to create analytical solutions to practical problems in the field of clinical chemistry. His most significant accomplishments relate to the effective use of kinetics as related to the development of measurement and data-processing methods for analyses that give accurate results under variable conditions.

Pardue is well known for his work in automation and computer applications and for the use of these tools to study and measure reaction kinetics. Because kinetic methods are suitable for many analytes of physiological interest, his feasibility studies use biochemical reaction systems and thus, many of his students are now clinical chemists. One of his colleagues who is a former student says: "I believe the first and most important contribution Harry has made to the field of analytical chemistry is the quality of the graduate-level training he has provided. His graduates make significant contributions to the practice and development of either analytical chemistry in academic institutions and industrial companies in the private sector or clinical chemistry in hospitals."

Pardue's contributions to the advancement of analytical instrumentation, basic kinetic studies, and applications (particularly in clinically relevant problems) are documented in more than 160 journal publications.

A number of technical innovations that came out of his research group have become mainstay components in many analytical instruments and automated analyzers available in both the clinical and analytical fields. Concepts such as the use of optical feedback for instrument stabilization and application of the vidicon tube and diode array detectors for fast spectral studies and of the photon counter for extremely sensitive measurements of low light levels from chemiluminescent reactions were all developed and refined in his laboratory.

His recent work on regression data treatment for predictive equilibrium signal values has been useful for analytical chemists. He has demonstrated that predictive data practices, when feasible, give a quality scope and reliability of results based on measurements under dynamic conditions that become competitive.

Pardue has spent his entire career at Purdue—first as an assistant professor from 1961 to 1966, an associate professor from 1966 to 1970, and then as a full professor since 1970. He served as head of the department of chemistry from 1983 to 1987.

The award winner received a B.S. degree in chemistry cum laude in 1956 and an M.S. degree in 1957, both from Marshall University, Huntington, W.Va. He received a Ph.D. degree from the University of Illinois in 1961.

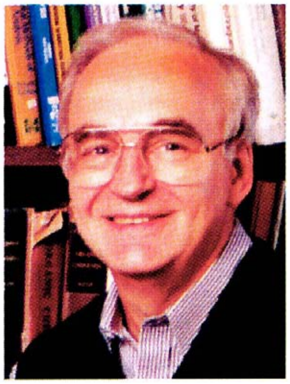
ACS Award in Inorganic Chemistry

Sponsored by Monsanto Co.

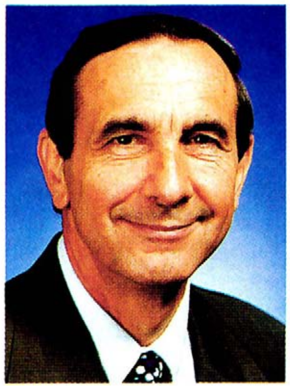
GUIDO P. PEZ, chief scientist at Air Products & Chemicals, has achieved many successes in fundamental inorganic chemistry research across diverse topics throughout his career. Pez has been described as "an explorer" who has established a truly outstanding record among inorganic chemists.

Among his well-recognized works are contributions to titanocene complexes for nitrogen activation, anionic hydride catalysts for selective hydrogenation, synthesis and characterization of polyacetylene conductive polymers via titanocene catalysts, molten salt membranes for gas separations, equilibrium oxygen-selective sorbents, and site-selective fluorination.

Pez received a B.S. degree from the



Pardue



Pez

University of New South Wales, Australia, in 1962. He went on to receive a Ph.D. degree in chemistry at Monash University, Victoria, Australia, in 1967, and later served as a postdoctoral fellow at McMaster University, in Hamilton, Ontario, under the direction of Ronald Gillespie.

Pez joined Allied Chemical Corp., Morristown, N.J.—now AlliedSignal—as a research chemist in 1969 and was later promoted to research associate. While at Allied, he worked in several areas including synthetic inorganic and organometallic chemistry applied to homogeneous catalysis, metallocene chemistry, hydrogenation, nitrogen fixation, and electrically conducting polymers.

In 1981, he began work as a senior research associate at Air Products, in Allentown, Pa., and was later promoted to chief scientist. Since joining Air Products, Pez has worked on topics such as chemically facilitated gas separation membranes, oxygen-selective sorbents, and carbon dioxide sorbents. He also has made significant contributions to the development of the commercially available Selectfluor electrophilic fluorination reagent.

Most of Pez's discoveries are based on the conception and synthesis of new molecular compositions of matter and are a demonstration of unique structure-property relationships that allow for further research or commercial exploitation. According to a former ACS Inorganic Chemistry Award winner, Pez's broad fundamental training and his practical experience as a laboratory chemist have allowed him to be "a pioneer across many areas of inorganic chemistry, each time coming up with developments that are seminal and technologically significant."

Pez's record of research has been documented in 31 patents and 39 research papers. He is also contributing author to nine publications ranging in topics from catalysis to organometallic chemistry to fluorine chemistry.

The award winner has previously been the chairman of the Inorganic Chemistry Gordon Research Conference and has served on the National Science Foundation Chemistry Division's Presidential Young Investigator Panel. He also has served on the editorial board of the *Journal of Catalysis.* □

LETTERS

Continued from page 2

1994 spring ACS national meeting in San Diego. At the fall ACS meeting in Washington, D.C., this proposal was unanimously endorsed by the Inorganic Nomenclature Committee and forwarded to the ACS National Committee on Nomenclature for (likely) endorsement at their upcoming November meeting. I am the representative of the ACS Division of Nuclear Chemistry & Technology on this committee.

Physical Review, one of the most prestigious journals in physics, published a new periodic table in its August 1994 issue on particle properties. This table has the U.S. adopted names for elements 104–109 and will be the standard used by the physics community.

It seems though, madness prevails elsewhere. CNIC, as reported in C&EN, had the audacity to reject, for the first time in history, the name picked by the undisputed discoverers of an element because the person so honored was still alive. There was no IUPAC rule relevant to this arbitrary edict, so they passed one first. CNIC then proceeded to name element 106 rutherfordium, which has been in use for element 104 for a quarter century already. Equally bizarre, they rejected hassium for 108 and named it hahnium, thus endowing hahnium with a double identity, too. We face instant nomenclature chaos created by the organization dedicated to avoiding such a situation.

The announcement in March that element 106 had been named in honor of Glenn T. Seaborg (C&EN, March 21, page 5) produced indescribable excitement in San Diego and elsewhere ever since. Seaborg was the recipient of the George C. Pimentel Award in Chemical Education at that meeting and when the audience was informed of "seaborgium," there was a prolonged standing ovation by a standing-room-only crowd of 1,000 people.

Chemistry as a field has far too few opportunities for flaunting exciting events. The idea of using living persons' names has not stymied other fields. Think of all the exposure this past year with the Shoemaker-Levy comet. But putting all that aside and granting, for debate purposes, that CNIC felt uncomfortable with the seaborgium recommendation, why did they not just say the U.S. recommendation was unacceptable at this time? That rhetorical question targets the entire decision-making process that has governed the ongoing IUPAC transfermium fiasco. Some of us refer to this, tongue-in-cheek, as the Transfermium Wars—not among the discovery contestants, who are actually very good friends, but with IUPAC.

It is no wonder that Allen Bard, in his statutory report as president of IUPAC last year, stated: "I must say at the outset that while I appreciate the many valuable activities carried out by the union, I generally find it now to be in a precarious situation. . . . The problem is that a large part of the chemical community does not know or care about IUPAC activities." It is incumbent upon the executive council of IUPAC to rescue themselves from the situation they seem injudiciously poised to embrace.

Paul J. Karol
Department of Chemistry
Carnegie Mellon University
Pittsburgh

Pauling's passport

In the obituary for Linus Pauling (C&EN, Aug. 29, page 4) it is stated that Pauling was denied a passport in 1952. That is correct, but he applied again within two months and was issued a passport to visit England that summer. I was science adviser to the State Department at that time.

Jospeh B. Koepfli
Santa Barbara, Calif.

Notice to members wishing to resign

ACS members who wish to resign their membership at the end of 1994 should do so now by letter to the ACS executive director. Bylaws specify that anyone who fails to resign by Dec. 31 will be carried on the rolls in 1995 as a member and will be responsible for dues. Failure to pay dues does not constitute resignation.