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# Indiana University

# BIOLOGY

Vol. V, No. 1

Alumni Newsletter

Winter 1988-89

College of Arts & Sciences—Graduate School Alumni Association

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## Research updates

### Clam taxonomy & cancer treatment

Two departmental research projects in microbiology were reported recently in *Science*.

**Rudy Raff** and the members of his lab are engaged in two studies that attempt to understand the mechanism of embryo development and how it is related to the evolution of body shape in animals. Their first project uses molecular tools to discover similarities among animal groups so distantly separated that in the past it was difficult to determine relationships. Raff's laboratory has been doing gene sequencing, particularly with ribosomal RNA, to conduct the experiments. With this method they construct a phylogenetic tree for animals and can now accurately place groups that previously had posed problems.

This comparison process enabled Raff to find strong evidence that clams and other mollusks are closer to the phylum that includes earthworms than to the one that includes flatworms. For years, mollusks were tied to both phyla in the absence of evidence to make an informed decision. Thanks to the efforts of Raff and this research team, the evidence now exists to properly assign a phylum. This study was conducted in conjunction with Elizabeth Raff, Norman Pace (BA'64 Bacteriology), and postdoctoral fellow Kate Field.

Raff's second study examines the way in which early development evolves. He uses molecular and cellular techniques to compare early development of Australian and American sea urchins, which differ radically in their early development. Using molecular tools, they have been able to identify homologous cells and processes in these radically different embryos and can elucidate detailed mechanisms by which the species have come to differ.

In doing these molecular studies of evolution and development, Mary Andrews (BS'84 Biology), a research associate in Raff's lab, and Deborah Hursh, one of his former graduate students, discovered a gene in sea urchin embryos that is closely related to

growth-controlling genes in the embryos of other animals.

Studies such as these give a clearer understanding of animal relationships and the mechanisms by which animals evolve. They will also help provide new tools for the understanding of development.

Raff's work and that of his associates is also proving invaluable to two biology undergraduates. Seniors John Sparzo and Mary Jozwiak are gaining hands-on laboratory experience thanks to their tutelage.

**Milton Taylor**, in collaboration with Genentech, Inc., of San Francisco, welded interferon together with the gene for tumor necrosis factor (TNF) and transferred them to bacteria, which produced a hybrid protein. The research team discovered that the genetically engineered protein had enhanced anti-cancer effects in cultured cells. The original idea for this experiment came from a second-year graduate student at IU, Gensheng Feng.

It is not yet known how the human immune system would react to this hybrid. Extensive testing needs to be done before determining if the hybrid would be useful in treating cancer. Taylor's lab, along with Genentech's Patrick Gray, is making a hybrid protein for mice, however, that can be tested in the whole animal.

They are also investigating the mechanism of action of both interferon and TNF. Taylor and his colleagues have isolated cells that are resistant to these molecules. Such cells will provide a clue as to how interferon and TNF destroy tumor cells.

In addition to the above-mentioned research, Taylor's laboratory is also working with an Indianapolis-based company, Endotech. They are developing the technology for seeding endothelial cells on synthetic grafts. This technology will be used in vascular surgery. Postdoctoral fellow Karen Etchberger is working on this project and says they hope to develop new procedures to improve the success of vascular grafts.



PATRICIA MCGILL  
*Academic adviser and career fair organizer*

### Career Fair gets results

Undergraduate biology and microbiology students interested in graduate or professional schools have a fairly straightforward path to follow. Requirements for application and admission to these schools are detailed in several departmental handouts. Those students interested in employment after graduation, however, often have little idea of the opportunities available to them or do not know how to make contacts with employers. Historically, our counselors advised these majors on a case-by-case basis.

In an effort to help these students, academic adviser Patricia McGill organized a small career fair, held in March of last year. Six companies (Abbott Labs, Eli Lilly, Upjohn, Boehringer Mannheim, Cook, Inc., and U.S. Fish and Wildlife) were invited to spend an afternoon in the Jordan Hall atrium. Graduating seniors and graduate students met with representatives from these organizations to discuss the companies and employment possibilities. Undergraduates discussed what courses might make them more marketable and got tips

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# Birds of Indiana on display in Jordan Hall

THE BIRDS OF INDIANA are discussed by owners Richard and Ruth Johnson (left) and artist William Zimmerman and his wife Judy.



IU News Bureau

The IU Press published *The Birds of Indiana* four years ago. Illustrated with 175 color paintings by Brown County artist William Zimmerman, the book contained companion text by Russell E. Mumford and Charles E. Keller. This work appealed to a wide range of people, from art lovers to serious birders.

In order to underwrite the production costs for the book, the IU Press organized an unusual funding method. Ruth and Dick

Johnson of Columbus, Indiana, purchased the paintings outright. Audubon chapters and individual bird lovers sponsored the manufacturing costs for the individual species published in the book. This unique approach made it possible to produce a quality volume at a reasonable price.

We are pleased to announce the Johnsons have loaned to the Department of Biology 114 of the original paintings created for this volume. They are now on exhibit in Jordan

Hall, where they will remain for at least the next five years.

Costs for displaying the paintings were underwritten by the IU Foundation, the Biology Enrichment Fund, Mr. and Mrs. J. Bart Culver, the College of Arts and Sciences, and the University Physical Plant.

These beautiful paintings were unveiled on September 30 at a preview honoring the Johnsons. Alumni who visit the campus are encouraged to see them.

## Career fair

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on internships and summer jobs. Many students were invited to interview with the firms, and several received job offers.

Thanks to contacts made through the Career Fair, Dave Snyder (BS Biology '88) was hired as a pharmaceutical sales representative for Eli Lilly, Tracy Lawhon (BS Microbiology '88) is now a preparation tech-

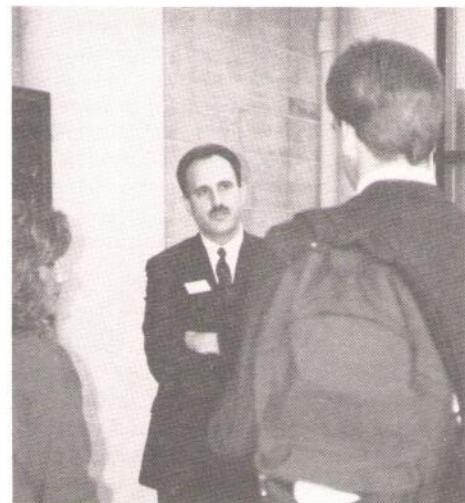
nician for Abbott Labs working on AIDS and hepatitis tests, and Boehringer Mannheim hired Mary Jo Meyer (BS Biology '88) as a research technician.

Said Meyer, who was promoted on November 1 to research scientist, "I was considering several employment options before the Career Fair. Speaking with the representatives helped me to better target my interests. The fair was a wonderful opportunity for me to make contact with these corporations. I think the creation of an event such as this was long overdue." As a result of the positive feedback received from students and companies alike, another fair was scheduled the following fall.

Thirteen organizations, including Abbott Labs, Baxter Scientific, Boehringer Mannheim, Eli Lilly, and Upjohn, attended the second Career Fair, held October 11. Several state agencies representing natural resources and public health concerns also participated. Student attendance was even higher this time, and corporate response was very enthusiastic. Abbott Labs, impressed by the quality of our students, arranged to spend a day in the department interviewing majors for positions within the firm.

"I'm delighted the fairs proved so successful," said Patricia McGill. "We have many outstanding students interested in employment opportunities after gradua-

tion, and the companies obviously recognize this. We consider the career fairs to be mutually beneficial to the organizations that attend and to these students. The fairs will continue to be held every fall, as this is the optimum time for students making employment decisions and for corporate recruiting." McGill added that any alumni working for firms who might take advantage of this event are encouraged to contact her at (812) 855-3810.



H. PAUL FREDERICK  
Representative of Eli Lilly Corp.

### Biology alumni newsletter

is published annually by the Indiana University Alumni Association, in cooperation with the Department of Biology and the College of Arts and Sciences—Graduate School Alumni Association, to encourage alumni interest in and support for Indiana University.

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# A year of acclaim and accomplishment

The department has been quite active, and there is much to celebrate of late.

Chairman Tom Blumenthal spent the month of June in Indonesia teaching a course in molecular biology to university professors in the city of Bandung, on the island of Java.

This has been a year of transition for both the Graduate School and the College as a result of the major reorganization mandated by President Ehrlich. Many responsibilities formerly held by the Graduate School are being transferred to the College.

Biology's Maxine Watson was appointed associate dean for graduate education in the College of Arts and Sciences (COAS) on July 1. As associate dean, Watson must ensure that the transition is a smooth one. She is now responsible for COAS graduate admissions, curriculum, and quality control. Watson will also oversee fellowship awards. Her experience as director of graduate studies in biology will certainly serve her well in this new position.

The National Academy of Sciences elected Charles B. Heiser, Jr., distinguished professor emeritus of botany, to their membership, bringing our departmental total to five members. Heiser's portrait was hung in the Indiana Memorial Union in recognition of this honor. He also received the 1988 Asa Gray Award from the American Society of Plant Taxonomists for his contributions to systematic botany.

Paleobotanist David Dilcher was the 1987-88 recipient of IU's Sonneborn Award, which was established by the dean of faculties to honor those who excel in both teaching and research. The award includes a \$4,000 summer research fellowship as well as an additional \$2,000 research grant. Dilcher spent two months this spring at the

British Museum of Natural History researching a book on angiosperm evolution. His work is funded by the Guggenheim Fellowship he received last year. He also represented IU on the Organization for Tropical Studies board to promote tropical biology courses for IU students.

The first person to receive the Academic Scientific Achievement Award from the Indiana Branch of the American Society for Microbiology was IU Professor Gene Weinberg. Given for outstanding research and dedicated service to the field of microbiology, this award was presented at the 1988 IBASM annual meeting in Indianapolis.

Two of our faculty were also recognized with Research Career Development Awards. Judith A. Jaehning received hers from the National Institutes of Health, and Susan Strome's was given by the American Cancer Society. These awards will reduce their teaching responsibilities, thereby enabling them to devote more time to their respective research projects.

The Institute for Molecular and Cellular Biology, which is directed by Rudy Raff, received \$1.2 million from the Indiana Corporation for Science and Technology. The institute also received a \$1.2 million allocation from this agency in 1984. They declared Raff's group a "Research Center of Excellence." These funds enabled the Institute for Molecular and Cellular Biology to acquire a DNA synthesizer, a large-scale fermentation unit, and a confocal microscope. Equipment of this type is too expensive for individual researchers to obtain. Thanks to the Corporation for Science and Technology's allocation, researchers are able to gain access to this equipment through the institute.

This money also funds a major national symposium each year, as well as six postdoctoral fellows who are being trained in various institute and departmental labs. The institute also funds, via the University, a graduate fellowship in molecular biology. Private and industrial support has enabled them to give symposia and has allowed for many collaborative projects. One Indiana company even funded a postdoctoral position at the institute. Raff hopes one day to be able to train undergraduates as well, but thus far there has not been sufficient funding to make this possible.

Our students have not been idle, either. A Summer Graduate School Research Fellowship went to Torgeir Johnson. Cheryl Blake was one of five graduate students to receive IU's Esther Kinsley Award for the best doctoral dissertation. She will receive \$1,800 in recognition of her accomplishment.

The Genetics Society of America bestowed an Undergraduate Research Fellowship on Laura Moore Haffley, who conducted research for the fellowship in Thomas Kaufman's laboratory. She was inducted into Phi Beta Kappa in 1987 and received the Rex Grossman Award in 1988. Moore graduated in May with a BS core biology degree and is now attending the IU Medical School.

Another of our undergraduates, Anthony Goldboss, received a 1988-89 Senior Achievement Award in the amount of \$2,000. This was given by the IU Honors Division. Goldboss's achievements were also recognized with his induction into Phi Beta Kappa. He was one of 31 biology and microbiology students so honored in 1988.

The Department of Biology congratulates its talented faculty and students for a year of high achievement.

## Retirements

### John R. Preer, Jr.

The life of John R. Preer, Jr., is a personal and scientific success story directly from Frank Capra central casting.

As a kid growing up in Florida he collected insects, and, during his high school days, he worked for a scientist at the University of Florida classifying thrips. Preer became so knowledgeable about these insects that his work became internationally known. A species and a genus of thrips bear his name—quite a remarkable achievement for a high school student.

Preer enrolled in the zoology department at IU to study taxonomy with Alfred Kinsey. A course given by the dynamic young geneticist Tracy Sonneborn altered his plans, however, and he began to work in protozoology. His life took another unexpected turn when he was drafted soon after the



JOHN AND BERTIE PREER

bombing of Pearl Harbor. Before leaving Bloomington, he married his graduate-student colleague, Louise ("Bertie") Brandau, who subsequently became his lab partner for life.

After the war, he returned to Bloomington to finish his graduate work, which involved an analysis of the killer character in *Paramecium*, a phenomenon discovered by Sonneborn. Preer continued work in this field after he left Bloomington to take a position at the University of Pennsylvania in Philadelphia. He worked on the killer character for the next 30 years, ultimately showing that the killer trait was due to unusual bacterial endosymbionts living in the cytoplasm of *Paramecium*.

In 1968, Preer left Penn to take a position at IU in the department of his mentor. Thanks to Sonneborn and Preer, Indiana was the acknowledged world center for work on the genetics of Protozoa.

Preer's work with gene expression led to some dramatic discoveries. In 1985, he, Bertie, and their associates, Bertina Rudman (MS Education '78) and Audrey Barnett (MA Zoology '57, PhD Zoology '62), found the genetic code, universal for all previously described nuclear genes, was unex-

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## Retirements

(continued from page 3)

pectedly different in *Paramecium*.

Even more recently, he and his co-workers have developed a new method of introducing genes into *Paramecium*, a method that promises to greatly accelerate the rate at which basic molecular questions can be studied in this organism. It is likely that Preer is on the verge of doing some of the most interesting and important work of his career.

In 1976, Preer was elected to membership in the National Academy of Sciences. Shortly thereafter, he was appointed distinguished professor of biology.

Throughout all this, he and Bertie have raised two kids and a series of German shepherds, learned to sail, ground the mirror for a twelve-inch telescope, fixed hundreds of broken toys, household items, and pieces of scientific equipment, maintained a huge greenhouse for growing orchids, learned how to program the Macintosh computer, and generally seemed to have a great time. Their attitude toward life and work seems almost too good to be true, somewhat like a Frank Capra movie. But they're not acting—that's the way they really are.

—Barry Polisky

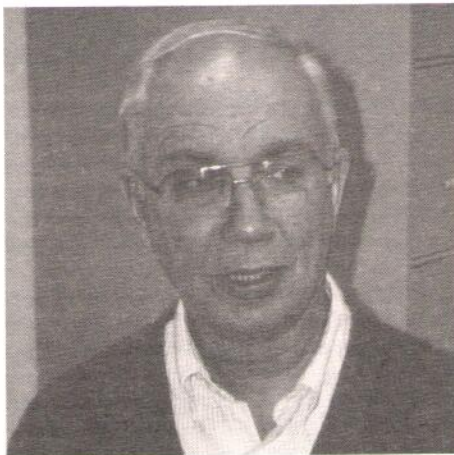
### Carlos O. Miller

Carlos Miller earned his doctoral degree in 1951 from Ohio State University. Upon graduation, he worked at the University of Wisconsin with noted biologist Folke Skoog.

From 1951 to 1958, he was associate investigator on a project sponsored by the American Cancer Society. During this time, Miller played a major role in the discovery, isolation, and identification of kinetin, the important hormone that exerts manifold influences on plant growth and development. The precise mechanism by which this hormone acts is still not fully understood, but much of our knowledge of the action of cytokinins comes from this prominent plant physiologist's research.

Miller accepted the position of assistant professor at IU's Department of Botany in 1957, where he continued his work in this area. He was the first to show the diversity of kinetin's effects, as well as its interaction with the other major plant hormone, auxin. He demonstrated that these adenine cytokinins occur in all sorts of plant species, ranging from maize to mycorrhizal fungi.

One of Miller's most important scientific contributions was his finding that crown gall tumors produce zeatin, the same cytokinin present in maize kernels. He was the first to show the capability of free-base cytokinins to form complexes with copper and thereby influence various biological interactions. Miller demonstrated that cytokinins can promote the formation of deoxyisoflavonoids, modify the oxidation of certain phenolic compounds, and inhibit oxygen uptake by cells and mitochondria.



CARLOS MILLER

This enabled him to pinpoint the action of cytokinin in the electron transport system of mitochondria. He is presently engaged in research on the induction of flowering in plants.

Miller was a member of the board of trustees of the American Society of Plant Physiologists, and has been secretary and vice-president of the organization. He was a member of the editorial board of the journal *Plant Physiology* for two terms and has served as secretary, vice-chairman, and chairman of the Midwest Section of the American Society of Plant Physiologists.

For many years, Miller has played the stock market. His success in this area has enabled him to contribute generously to the University. IU is fortunate to have attracted and kept such a distinguished and loyal scientist.

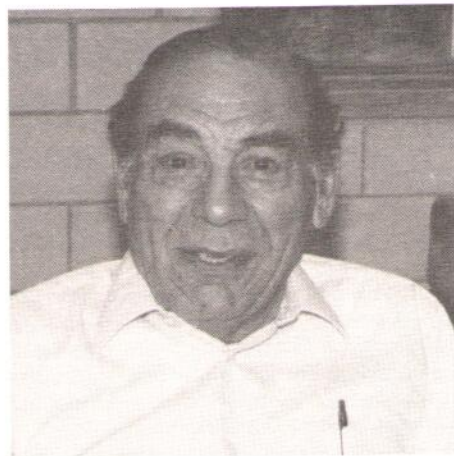
—Drew Schwartz

### Anthony G. San Pietro

Anthony San Pietro came to Indiana University in 1968 to chair the Department of Plant Sciences. He directed its activities and development until 1977, when it became part of the newly formed Department of Biology. As a chemist and biochemist who nevertheless appreciated the contributions of taxonomists and evolutionists, he played an important role in moving what was a relatively classical department in the direction of modern plant biology.

San Pietro established and maintained an active laboratory that investigated the mechanisms of the light-dependent reactions of photosynthesis. In the course of his career, he published over 160 papers, dealing with the mechanism of hydrogen-transfer reactions, photosynthetic electron transport and photophosphorylation, the chemistry of pyridine nucleotide coenzymes, biological solar energy conversion, and the use of biosaline environment and resources for chemical and fuel production. Clearly, his expertise and interests are multifaceted.

His outstanding research achievements have attracted postdoctoral fellows and visiting scientists from all over the world. His graduate students and postdocs have developed productive, visible careers as



ANTHONY SAN PIETRO

faculty members at such places as Duke, the University of Michigan, and the University of Tokyo.

Besides his excellent nurturing of graduate students, San Pietro will be remembered for his teaching of the undergraduate cell biology course. His emphasis was decidedly biochemical, and there was probably no better biochemistry course anywhere for very bright students.

San Pietro has earned many honors. In 1975, he was appointed distinguished professor of plant biochemistry. IU's President Ryan appointed him science adviser in 1980. In this position, he was able to put his connections in Washington and East Asia to good use, coordinating national efforts to bring Indiana and East Asian scientists together for fruitful meetings and research collaboration. In this capacity, he provided important insights and expertise to the president regarding the strengths and needs of the scientific community within the IU system. He was recognized at the national level for his outstanding scientific achievements by being elected to membership in the National Academy of Sciences in 1983.

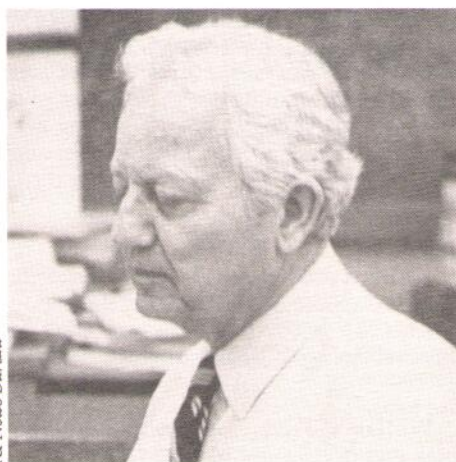
—Albert Ruesink and Robert Togasaki

### Frank W. Putnam

Frank W. Putnam completed his doctorate from the University of Minnesota in two years because, as he so aptly says, "There was a war on. We didn't have time to fool around!" He didn't then, nor has he since. He has over 270 research papers and book chapters, and an overwhelming list of honors and outside scientific activities, to his credit.

Putnam came to Bloomington in 1965 as professor of biology and director of the newly organized Division of Biological Sciences. He served as professor of molecular biology and zoology from 1969 to 1974, and has held an appointment as professor of biochemistry in the IU School of Medicine since 1971. IU formally recognized Putnam's scientific accomplishments by appointing him distinguished professor of molecular biology and biochemistry in 1974.

His association with research groups in



FRANK PUTNAM

Cambridge, England, has been of great importance to him. He has been there several times as a visiting scientist, including once in 1953 as a Lasdon Research Fellow and once in 1970 as a Guggenheim Fellow. Churchill College of the University of Cambridge named him an Overseas Fellow in 1972, awarding him an honorary MA in 1973.

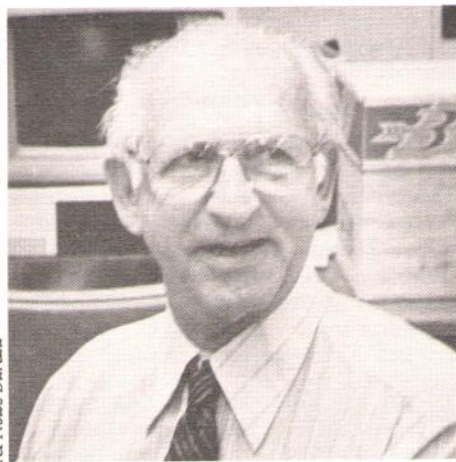
Putnam has been at the center of pioneering research in three areas: he developed methods for the physical characterization of proteins; in his early days at the University of Chicago, he was a member of the phage group whose studies of the biology and chemistry of bacterial viruses was of crucial importance in the development of modern molecular biology; and he was the first to recognize that Bence-Jones proteins held the key to antibody structure.

His work on the Bence-Jones proteins served as the basis for the rest of his research. Putnam recalls that many were skeptical about his then-radical theory that the proteins found in the serum and urine of multiple myeloma patients were related to normal antibodies. His laboratory has been responsible for making many of the crucial determinations of the primary structure of antibodies, and more recently of other human serum proteins.

Putnam was nominated to membership in the National Academy of Sciences in 1976. He continues to be involved in many of their activities. From 1977 to 1981 he chaired the Assembly of Life Sciences, an advisory arm of the National Research Council. In this capacity he was responsible for directing the efforts of 80 different committees under the auspices of the National Academy of Sciences, the Institute of Medicine, and the National Academy of Engineering, and for overseeing a budget of \$17 million.

Despite his retirement, Putnam's research is still going strong. He is a member of several boards and committees, including the board of governors for the Argonne National Laboratory. Clearly retirement has not ended his considerable contributions to the University nor to his profession.

—Elizabeth C. Raff



HOWARD GEST

## Howard Gest

Howard Gest was born in England and reared in the United States. As an undergraduate at the University of California, he spent his summers at Cold Spring Harbor in New York and did bacterial virus research in the laboratory of Max Delbruck and Salvatore Luria, who eventually won Nobel Prizes for their work in molecular biology. Upon graduation, Gest pursued his graduate studies at Vanderbilt University in order to continue his research in Max Delbruck's lab on bacterial virus multiplication.

The outbreak of World War II interrupted his studies. He began work on the Manhattan Project at the University of Chicago with the eminent physical chemist Charles Coryell in the fall of 1942. In Chicago, and later at the Oak Ridge National Laboratory, Gest pursued research in inorganic nuclear chemistry.

At the end of the war, he studied under Martin Kamen at Washington University and completed his doctorate in microbiology. Kamen, best known as the co-discoverer of the isotope carbon-14, was an important investigator of photosynthesis. Gest's collaboration with Kamen led to several highly significant discoveries, including that of nitrogen fixation by photosynthetic bacteria. This led Gest to a long and successful career in bacterial photosynthesis.

In 1966, Gest came to Indiana University to chair the Department of Bacteriology. For many years he administered a large research laboratory that served as an international center for bacterial photosynthesis research. He has been the recipient of numerous honors, including two Guggenheim Fellowships. In 1978, he was appointed a distinguished professor of microbiology.

Despite the approach of his retirement, Gest's zest for research has not abated. A few years before his formal retirement, he and his laboratory assistant, Jeffrey Favinger, discovered a new group of photosynthetic bacteria with unusual chemical properties. These bacteria were only distantly related to the photosynthetic bacteria known at that time. When a similar organism was

later isolated in a lab in Norway, Gest was honored by having the new organism, *Heliospirillum gestii*, named after him.

Gest's interests in microbiology have not been restricted to the laboratory. He has a deep interest in the history of microbiology and biochemistry. His involvement in this area resulted in his appointment as adjunct professor in the Department of History and Philosophy of Science. He recently completed a book, *The World of Microbes*, which emphasizes both the historical aspects of the subject and the impact that this science has on everyday life.

Gest is married and has three sons. He and his wife enjoy music and they travel extensively. They try to return to England at least once a year. Gest is spending his "retirement" years not too differently from his "nonretirement" ones, continuing his research projects within the department.

—David White

## Walter Konetzka

Walter Konetzka earned his doctorate from the University of Maryland in 1954. Upon graduation, he worked as a microbiologist with Merck and Co. A year later, he accepted an appointment as an assistant professor in what was then IU's Department of Bacteriology, becoming a full professor in 1963.

Konetzka's research encompassed such areas as degradation of lignin, hydrolysis of decalcified dentine, inhibition of synthetic processes in bacteria and viruses by phenethyl alcohol, cross-resistance of bacteria to detergents and antibiotics, and oxidation of orthophosphite. Other research areas included microbiological metal transformations, intracellular accumulation of metals, magnetotactic bacteria, chemotaxis in bacteria, and reduction of selenite to elemental selenium.

Many of the above research interests had extensive practical applications, such as systems for ridding the environment of toxic concentration of metals. These research problems involved not only the skillful use of established biochemical techniques, but often the development of new methods and/or techniques.

Konetzka's impatience with bureaucratic red tape led him to decline several administrative positions over the years, but he was eventually convinced to serve as coordinator for undergraduate programs in biology from 1968 to 1971 and as associate chairman of the department from 1983 to 1987.

In his capacity as coordinator for undergraduate programs, he was instrumental in the creation of the Core BS Biology program. The core consists of a series of rigorous honors courses for academically motivated students. Emphasizing molecular biology and research techniques, the classes were designed to train professional biologists. The program provides an ideal route toward entering graduate school in

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# Alumni news

If you would like news published in this section, please send us such details as position, recent professional and community activities, awards, names of spouse and children, pets, hobbies, and interests.

Look for your friends or yourself under the year of the most recent IU departmental degree. We do not indicate whether undergraduate degrees are BA or BS. Advanced degrees awarded by IU are indicated in parentheses.

## 1942

**William L. Ridgway, MD (Zoology) (MD 1944).** Retired ophthalmologist. University of Evansville trustee, Evansville, Ind. Trustee and treasurer of Foundation for Glaucoma Research, San Francisco.

## 1948

**Richard S. Engelbrecht, ScD (Zoology).** Professor of environmental engineering at University of Illinois at Urbana-Champaign.

Named by Water Pollution Control Federation as 1987 recipient of Gordon Maskew Fair Medal.

## 1950

**Earl G. LaRoe, Jr. (Bacteriology).** Retired July 1987 from National Distillers, Cincinnati, where he had been technical director for several years. Consulting for International Flavors and Fragrances, largest company of its kind in world. Enjoys playing golf in warm Florida climate of Fort Myers.

## 1957

**John W. Ellis, Jr., MD (Anatomy & Physiology) (MD 1960).** Named command surgeon, Office of Air Force Reserve, Headquarters, USAF, in September 1987. Finishing MBA at Marymount University, Washington, D.C. Travels worldwide, but looking for more settled environment after retiring. Hobbies include fishing, camping, and cars.

## 1958

**Richard D. Goldman (Zoology).** Profes-

sor of biology at Kennedy-King College in Chicago. Has been teaching biological sciences for 26 years. Lectures on diet and nutrition, community health problems, and exercise physiology. Enjoys astronomy, sports, and piano. Also interested in and collects art. Wife, Robyn; they have three college-age daughters.

## 1960

**Gloria Randle Scott, PhD, LLD (Zoology 1959; MA Zoology) (PhD Higher Education 1965; LLD 1977).** President and CEO of Bennett College, Greensboro, N.C.

## 1962

**William F. Friel (Plant Science).** General manager for Jacquin-Florida Distillation Company, Auburndale, Fla. Interests include flying (private pilot), fishing, hunting, bird watching, and IU sports.

**Kenton C. Olson, PhD (Biology).** Promoted to dean of faculty at School of the Ozarks, Point Lookout, Mo. Held Henry Robert Herold Chair of Biological Science at S. of O. Active in mycological research, particularly Ozarks fungi. Wife, Pat; three sons.

## Retirements

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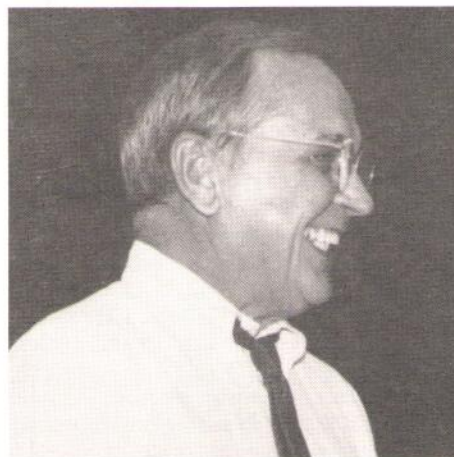
most areas of biology, especially those requiring a strong molecular background. It is also a very desirable program for pre-medical students with an interest in research.

Konetzka seemed happiest when he was fine-tuning the overall curriculum, not only for IU but nationally as well. He served on the majority of the important departmental and college committees, particularly those examining graduate and undergraduate curriculum. Konetzka was involved in the organization of a graduate course in molecular biology long before similar changes occurred at other institutions.

The American Academy for Microbiology made him a member of their Board of Education Training and chairman of their Committee on Undergraduate and Graduate Education from 1971 to 1973. Konetzka served as a member of the same committee from 1979 to 1982. He also served on the Commission on Undergraduate Education in the Biological Sciences for the American Institute of Biology.

It is estimated that this dedicated teacher taught over 11,500 students during his career at IU. The fourteen master's and nine doctoral students under his guidance are now well into their careers in industry and academia. His introductory microbiology course inspired many undergraduates to choose microbiology for their majors.

Konetzka's teaching style reflected his high-powered, dynamic personality, and he could be counted upon to pace constantly during his lectures. He became famous for the "Right!" and "Terrific!" he interjected during any lecture or discussion. Students enjoyed his sense of humor and quick wit.



WALTER KONETZKA

Konetzka was involved in the production of several widely used films on microbiology and the careers available to students with this major. He was one of the first to develop audiotutorial laboratory exercises for introductory and pathogenic microbiology courses and was frequently invited to speak on this topic at other campuses, national meetings, and even on television.

His dedication to teaching is reflected in the many awards he received throughout his career. These include IU's Frederick Bachman Lieber Award for Distinguished Teaching, given in 1965; the Carski Foundation Distinguished Teaching Award received from the American Society for Microbiology in 1970; three Senior Class Teaching Awards (1970, 1974, and 1978); and the College of Arts and Sciences-Graduate School Alumni Teaching Award bestowed in 1981.

The University of Maryland chapter bestowed the Phi Beta Kappa Alumni Award on Konetzka in 1967 in recognition of his

scholarly achievements. This popular instructor was also a four-time recipient of the Biology Senior Class Award for Teaching Excellence and Dedication to Undergraduates, having been honored with this award in 1981, 1982, 1985, and 1987.

Konetzka's professional activities include serving on the editorial board of *Applied Microbiology* from 1959 to 1972. He chaired the American Society for Microbiology's committee to revise their career brochure and served on the ASM's Carski Foundation Distinguished Teaching Award Committee for three years. The Indiana Branch of the ASM has elected him secretary-treasurer (1957-1959), vice-president (1960-1961), and president (1961-1962). A fellow of the Indiana Academy of Science, he chaired the bacteriology division and participated in their visiting scientist program. In addition, Konetzka found time to serve as a member of the examination committee of the National Registry of Microbiologists and the Committee on Examinations for Specialists in Public Health and Medical Laboratory Microbiology.

With his retirement from active duties, IU loses a distinguished teacher, an innovative research scientist, and one who has contributed much to the quality of education. Konetzka always threatened to follow Dr. Ted Torrey's example by not returning to the department after retirement. He now spends much of his time creating exquisite Tiffany-style stained glass lamps, and his wife Lil has him working on several home-improvement projects.

Luckily for us, he comes to the department regularly. We still get to enjoy this dynamic man's humor and benefit from his insights on the department, the curriculum, and the students about whom he cares so deeply.

—Kathy Wyss

## 1963

**Ann Thompson Buckley** (MA Bacteriology). Promoted to executive director, operations technology and support for Upjohn Company's pharmaceutical manufacturing division in Kalamazoo, Mich. A 1987 recipient of W. E. Upjohn Award.

## 1964

**W. Hardy Eshbaugh III**, PhD (MA Plant Science 1961) (PhD Plant Science). Professor and chair, Department of Botany, Miami University, Oxford, Ohio. Led three-week Pepper Germplasm collecting trip for International Board of Plant Genetic Resources throughout Central Bolivia in April 1987. President-elect of Botanical Society of America.

## 1966

**Robert T. Neher**, PhD (MAT Biology 1955) (PhD Plant Science). Natural science division chair and professor of biology at University of LaVerne in LaVerne, Calif. Wife, Mary; three children. Environmental consultant for L. A. County Watershed Commission and chair of the LaVerne Church of Brethren. Hobbies include coin collecting, woodworking, environmental consulting and lecturing, and shrimp culture. Pets include boa constrictors and desert tortoises.

## 1969

**John M. Burns**, PhD (PhD Zoology). Chairman of the Department of Biological Sciences at Texas Tech University in Lubbock.

**Abe W. Hsie**, PhD (MA Bacteriology 1965) (PhD Microbiology). Professor and associate director, Division of Environmental Toxicology, Department of Preventive Medicine and Community Health, University of Texas Medical Branch in Galveston.

**David F. Stowe**, MD, PhD (Zoology 1968) (MA Zoology). Anesthesiologist and physiologist. Research in effects of anesthesia and cardiovascular drugs on conduction system of heart. Resides in Whitefish Bay, Wis.

## 1970

**Frederick J. Passman**, PhD (Microbiology). Biocides business manager and technical field service manager for ANGUS Chemical Co. in Chicago. Remarried February 1987, has one daughter and two stepsons. Treasurer of his religious group. Enjoys running, camping, sketching, and practicing aikido.

**Arthur I. Sagalowsky**, MD (Zoology) (MD 1973). Associate professor of urology at University of Texas Southwestern Medical Center at Dallas. Recipient of American Urological Association 1987 Gold Cytoscope Award. Lives in Dallas with wife Hanne and two children. Interests include travel, music, and golf.

## 1971

**Jane L. Scarola Clay** (MA Plant Science). Succeeded Barbara Shalucha as director of IU's Hilltop Garden. Eager to hear from

alumni who took courses from Dr. Shalucha or were associated with Hilltop. Also teaches undergraduate nature study and horticulture courses. Resides in Ellettsville, Ind.

**Douglas D. Sheets**, MD (Zoology) (MD 1974). Has a private ob-gyn practice in Rutherfordton, N.C. Elder in Presbyterian Church. Active in county and state medical societies. Hobbies include photography, white-water rafting, and "raising three kids." Wife, Kaye Kaade Sheets (BS Cytotechnology 1974)

## 1973

**Debra Ann Boyer** (Biology). Career in visual and written communications. Creative director and owner of Ridgetop Communications in Nashville, Ind. Interests include media, cultures, people, food, environment, low-impact exercise, and preventive medicine and nutrition.

**Steven J. Hulecki**, MD (Biological Sciences). Associate clinical professor of urology at University of South Carolina School of Medicine in Columbia. Three children: Noah, Jonathan, and Caroline. Father and three siblings are all IU grads

## 1976

**Charlene L. Friedman Forest**, PhD (Genetics). Associate professor, Department of Biology, Brooklyn College, N.Y.

**David S. Peters**, MD (Biological Sciences) (MD 1980). Physician in family practice at Resurrection Hospital in Chicago. Clinical assistant professor at Loyola University Medical School. Resides in Winnetka, Ill., with wife Mary. Active in church. Participates in running and biking activities (including the Hilly Hundred in Bloomington).

**Blake E. Swihart** (Biological Sciences). Began own food marketing company in 1986 and chairs foundation that raises money for culinary research. Travels constantly. Hobbies include swimming, gardening, and collecting American and English antique furniture. Resides in Evanston, Ill.

**Kathryn Jay Wilson**, PhD (MA & PhD Plant Science). Associate professor of biology at IUPUI. Interests include classical guitar and gardening.

## 1977

**Becky A. Brown** (Biological Sciences). Received MBA degree from Washington University, St. Louis. Employed as marketing specialist for Vitek Systems/McDonnell Douglas Corporation. Secretary of IU Alumni Club in St. Louis. Interests include travel, photography, and tutoring for local literacy council.

**Dorothy L. Mammen** (Biological Sciences). Assistant director of academic computing and instructor in Department of Mathematics and Computer Science at Middlebury College, Vt. Married to Stephen C. Trombulak; one child. Hobbies include cross-country skiing, knitting, and reading. Active in church and member of board of directors of Otter Creek Child Center.

**Richard D. Rowlands** (Zoology). Manager in General Management Consulting Group of Arthur Young & Company, Toledo, Ohio. Wife, Eileen M. Underwood (MA Zoology 1976) (PhD Biology 1979), assistant professor of biology, Bowling Green State University. One daughter. Hobbies include motorcycling and bicycling.

## 1978

**Thomas A. Kintanar**, MD (Microbiology). Graduate, Ft. Wayne Medical Education Program Family Practice Residency Program. Private practice family physician in Ft. Wayne, Ind.

**Jack W. Lenox**, MD (Biological Sciences) (MD 1982). Ob-gyn residency, University of Chicago, 1982-1986. Married to Christine Clark Lenox, an IU alum. They live in Rockford, Ill., and have three children.

## 1979

**Jo Ellen Cartmell**, MD (Biological Sciences) (MD 1984). Completed internal medicine residency at University of Virginia, Charlottesville. Moved to Arlington, practicing internal medicine in northern Virginia. Enjoys photography.

**Sylvia R. Lockett Jackson** (Biology). High school science teacher living in Oxnard, Calif. Married, two children. Likes reading, jazzercise, bike riding, and camping.

**Wendy B. Levine**, PhD (Biological Sciences). Postdoctoral research associate at University of Illinois, Division of Surgical Oncology. Involved in recombinant DNA/molecular biology research. Hobbies include sailing, skiing, and enjoying Chicago's culture and nightlife.

**Roberta S. Wallace**, DVM (Biological Sciences). Head veterinarian at Indianapolis Zoo. Enjoys long walks, guitar, and bicycling.

## 1980

**Robert J. Helm**, MD (Biology) (MD 1984). Private practice in Elwood, Ind., in association with Marion C. Drake, MD (an IU alum). Wife, Moira Kay Beeman Helm.

## 1981

**David W. Vissing** (Biology). Industrial sales specialist for Pharmacia LKB Biotechnology Inc., based in Piscataway, N.J. Promoted to current position from Electrophoresis sales representative September 1987. Lives in Indianapolis.

**Joan H. Wood**, PhD, MD (Plant Science 1972) (MA Plant Science 1975) (PhD Genetics) (MD 1983). Private genetics practice, Bloomington. Faculty member in ob-gyn department at St. Vincent's Hospital, Indianapolis. Married Owen L. Slaughter; they have one son. Interests include gardening, antiques, woodworking, and film arts.

## 1982

**Mark H. Shultz** (Biology). Credit supervisor with Chrysler Credit Corporation. Resides in San Fernando, Calif. Member of Community United Methodist Church and United Way. Hobbies include backpacking, bicycling, and scuba diving.

## We Want To Hear From You . . .

IU's Department of Biology and the Alumni Association are always interested to learn about alumni and their activities. Please send your news to Alumni Records, IMU M-17, Bloomington, Indiana. PLEASE USE THIS FORM TO REPORT CHANGE OF ADDRESS.

Name \_\_\_\_\_ Degree/date \_\_\_\_\_

Address \_\_\_\_\_

City/State/Zip \_\_\_\_\_

Current position/employer \_\_\_\_\_

News of promotions, publications, awards, personal achievements, etc.

### 1983

**William L. Ebbs**, DDS (Biology/Sociology). Graduated from Howard University College of Dentistry in Washington, D.C. Dental general practice residency at Cleveland (Ohio) Metro Hospital.

**Lorri G. Fishman** (Biology). Employed as administrative dietician for Spaulding Rehabilitation Hospital in Boston. Her fiancé and all her family members are IU alumni.

### 1984

**Eugene S. Justus** (Microbiology). Recent graduate of University of Osteopathic Medicine and Health Sciences in Des Moines, Iowa. Started internship at Westview Hospital in Indianapolis July 1. Interests include swimming and genealogy.

**Jacqueline M. Murray** (Biology). Former lead analyst for Marion County (Ind.) Health Department. Selected to be member of U.S. Training Center Judo Squad. Training at Olympic Training Center in Colorado Springs, Colo.

**Neal B. Secrist** (Biology). Graduate of Kirksville College of Osteopathic Medicine in Mo. Private pilot, enjoys racquetball and water-skiing. Plans flight surgery for U.S. Air Force and specializes in orthopedics. Member of Christian Medical Society.

### 1985

**Cezanne Carroll Allen** (Biological Sciences). Finishing third year of medical school. Plans on pediatrics residency. Married A. Demarest Allen, an Indianapolis attorney.

**Matthew S. Brennan** (Biology). Attending IU School of Dentistry. Married **Tracy J. Grubb** (Biology 1986) August 1987. She teaches biology and physical science at Warren Central High School in Indianapolis.

**Jack J. Hall** (Biology). Enrolled in IU Medical School. Elected vice-president, Phi Rho Sigma Medical Fraternity. "Other achievements: survived national boards part I." Married **Lisa Heth Sawyer** March 1987.

### 1986

**Kye A. Chesnut** (Biology). Employed as lab technician for biology department's M. W. Taylor. Resides in Bloomington with husband **Perry Reichenba**.

**Samuel F. LaBudde** (Biology). Lives in Evanston, Ill. Completed five-month tour on foreign tuna seiner as "eco-spy" for West Coast environmental groups. Took first live, unstaged documentary footage in history in reference to tuna/dolphin issue. Lobbying for changes in the Marine Mammal Protection Act.

**Lisa Wojtanowicz Phillips** (Biology). Working on master's in exercise physiology, University of Oregon, Eugene. Has graduate teaching fellowship and works as fitness consultant at health club. Enjoys hiking, biking, running, and mountain climbing.

**Mary J. Teskey** (Biology). Full-time flight attendant and part-time supply teacher for high school sciences. Lives in Toronto, Ont. Applying to dental schools.

### 1987

**Thomas M. Calkusic** (Biology). Financial planner with IDS/American Express. Registered securities and life insurance agent. Hobbies include running road races and playing basketball. Living in South

Bend, Ind.

**James D. Duncan** (Biology). Lives in Canton, Mich. Sales representative for major pharmaceutical company.

**Melissa J. Gamponia** (Biology). Enrolled in medical school at West Virginia University, Morgantown. Received summer student grant from Mary Babb Randolph Cancer Center Oncology Education program. Worked at WVU Med Center on staining technique using monoclonal antibodies to better diagnose transitional tissues of colon cancer.

**Jennifer Shrote Humphrey** (Biology). Recently promoted to biologist in molecular genetics department at Eli Lilly & Co., Indianapolis. Works with gene expression of human proinsulin. Future research plans are to investigate protein engineering.

**Cynthia A. Page** (Biology). Working as ophthalmic technician in Chicago.

**Matthew L. Repasy** (Biology). District manager in Santa Monica, Calif., for Cook, Inc.

**James A. Shuck** (Biology). Attending Butler University's MBA program in Indianapolis. Working for family business, Shuck Corp.

**Jody E. Zima** (Biology). Sales representative for Dista Products division of Eli Lilly. Lives and works in Washington, D.C. area.

### Departmental friends

The people listed below are not our majors. They have been supportive of the department, however. Some are parents of our students, others have an interest in biology, all believe in the importance of what we are doing. Whatever the tie, we are grateful to them.

**J. Bart Culver**. Owner, Bart's Water Ski Center, Inc. Married, three daughters. Family travels two months a year, usually where there is sun and rain forest. Member of Bloomington Worldwide Friendship Nature Conservancy and Audubon Society. Studies pond ecology.

**Mayphoon H. Hsie**. Works at Clinical Research Center, University of Texas Medical Branch, Galveston. Husband: **Abe Hsie** (MA Bacteriology 1965; PhD Microbiology 1969).

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