
Indiana University

BIOLOGY

Vol. VI, No. 1

Alumni Newsletter

Fall 1989

College of Arts & Sciences—Graduate School Alumni Association

Biology Department receives Hughes grant

Several national studies have documented the decreasing enrollment of undergraduate science majors, and figures for women and minorities in college science programs are especially low. Reports warn that America's leadership in research and technology is jeopardized if such alarming trends are allowed to continue. Without improved enrollment, colleges and universities will be unable to meet the increasing demand for trained scientists.

Work is underway at IU to counteract this problem. The Department of Biology has received a \$2 million grant from the Howard Hughes Medical Institute (HHMI) of Bethesda, Md. Entitled the Indiana Biology Plan, the grant seeks to enrich undergraduate science education and foster student interest in research and teaching careers in medicine, biology, and related sciences. New and exciting changes are taking place thanks to HHMI.

The quality of IU's undergraduate biology program will be enhanced by strengthening its intensive curriculum in modern biology. New instructional materials are being designed to discourage rote memorization while improving analytic problem-solving skills. Among the instructional aids will be computer-driven lab exercises to expose undergraduates to real research situations, and the reorganization of large lecture classes into smaller learning groups to supplement discussion sections.

Student supply grants have been expanded and new stipends established to encourage student participation in undergraduate research opportunities. Hands-on research, under the tutelage of a faculty member, is one of the most effective ways we have to encourage a student to pursue an advanced degree.

The project also seeks to increase the numbers of minorities and women interested in scientific careers. Female students are well represented in the Biology Department, and efforts in this area will focus on helping these women achieve their goals. Female faculty will serve as role models, conducting semi-annual forums on the "whys and hows" of graduate school and career lifestyles.

Plans include organizing conferences and symposia on women in science and preparing a pamphlet on research careers for women.

As is the case nationally, minorities at IU are seriously underrepresented. Professor James Holland (MA '58 Zoology, PhD '61 Zoology) is coordinating the grant's minority recruitment pro-

(continued on page 10)

Biology addresses space needs

Tom Blumenthal, chairman of the Department of Biology, and Rudy Raff, director of the Institute for Molecular and Cellular Biology, have collaborated to determine the long-term space needs of biology and the institute. In June, Blumenthal and IU President Thomas Ehrlich met with Indiana Governor Evan Bayh, who was given a special presentation on this critical issue. Blumenthal and Raff propose the construction of a new facility which would enable the institute to continue more effectively its research in cellular, developmental, genetic, and molecular biology, as well as biochemistry.

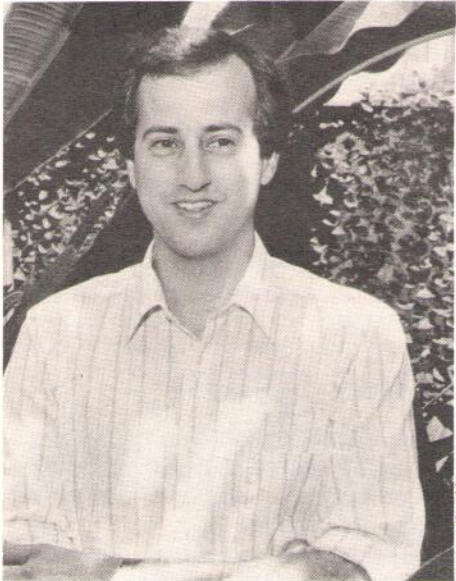
They are requesting the renovation of existing departmental laboratories. Biology, ranked among the top 15 departments in the country, brings in approximately \$7 million annually in federal research support via its departmental faculty. Blumenthal and Raff believe that additional space would enable the department and the institute to hire additional staff, obtain added equipment, and conduct more research, thereby generating increased federal support.

Bayh agreed to support the project, and Cassidy and Associates, a Washington, D.C., lobbying firm, will be consulted. This firm helped IU obtain federal money for the Center for Excellence in Education, and they feel they could be equally successful with this proposal. Foundation and private funding will also be sought for this project.

Raff met with the Board of the Indiana Corporation for Science and Technology a few weeks later to present his and Blumenthal's ideas for the space needs of the two organizations. The board, which is composed of university presidents, labor representatives, and senior corporate administrators, declared the institute a "Research Center of Excellence" last year. The institute, created in 1983, focuses on the role of molecular and cellular biology in the expanding biotechnology industry. The CST Board has been very supportive of the institute, providing it with funding since 1984.

Currently, limited space is devoted specifically to the institute's research. Institute Fellows (from the faculties of biology, chemistry and the Optometry School) now conduct research within their individual departmental laboratories. Raff and Blumenthal predict that with additional funding and the construction of a modern research facility, the institute would improve its already strong reputation. An institute building committee, headed by the two, is vigorously planning the details of this endeavor.

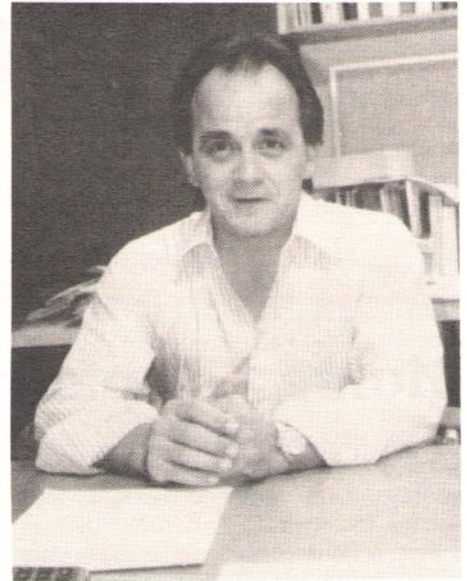
New faculty in Jordan Hall



Jeffrey Palmer



Miriam Zolan



Thomas Donahue

The last issue of this newsletter reported several faculty retirements. With that in mind, it is only fair to tell you of the many new faces now gracing Jordan Hall.

Five new faculty members will join the department during the 1989–1990 academic year. One of our August '89 arrivals was Dr. Miriam ("Mimi") Zolan, who graduated *cum laude* from Smith College in 1976. She earned her doctorate in biology at Stanford University in 1983. Zolan was given a postdoctoral fellowship at the University of North Carolina. In 1984, she became a postdoc at the University of Michigan, and the following year she was made an assistant professor at the Dearborn campus.

While at Michigan, Zolan worked closely with undergraduates, supervising eleven of them in her lab. Within a few weeks of arriving on the Bloomington campus, she had quickly become involved with undergraduate activities. The department, via the Indiana Biology Plan, awarded more than \$10,000 in L490 stipends and supply grants this semester, and Zolan served on the committee that selected the recipients. Her research interest is the genetic control of meiosis.

Zolan's husband, Dr. Jeffrey D. Palmer, also joined our faculty this August. Palmer, who majored in biology, earned his doctorate from Stanford University in 1981. Upon graduation, he began a postdoctoral stint with the Carnegie Institution of Washing-

ton. In 1983, Palmer moved to Durham for a postdoc position at Duke University, where he remained until being named the Arthur F. Thurnau Assistant Professor of Molecular Genetics at the University of Michigan. The National Science Foundation awarded him the Presidential Young Investigator Award from 1985–1990. Palmer joins the IU faculty as a tenured associate professor and will continue his work in plant organelle genome evolution and function.

The state provided funding to refurbish a section of Jordan Hall's second floor. This renovation will provide laboratories and related space for Palmer and Zolan's research in microbiology, plant physiology, and molecular biology.

Thomas F. Donahue, who also arrived in August, earned both master's and doctorate degrees in genetics at the Albert Einstein College of Medicine. In 1982, Donahue became a postdoc at Cornell University. He was appointed an assistant professor in Northwestern University Medical School's Department of Molecular Biology in 1982. Donahue, who has been granted tenure at IU, joins the department as an associate professor. He will continue his study of the regulation of gene expression in yeast.

The last two additions to our faculty arrive in January of 1990. Curtis Lively and his wife, Lynda Delph, will split a single position and share one laboratory. This is the first time the depart-

ment has attempted such an innovative arrangement. The two will join our department as assistant professors.

Lively earned his doctorate in ecology and evolutionary biology from the University of Arizona in 1984. He was a postdoctoral fellow at the University of Canterbury in Christchurch, New Zealand. Lively also had a National Science Foundation Research Fellowship at Canterbury (1987–89) which was administered through the Department of Ecology and Evolutionary Biology at the University of Arizona. He is now a postdoc in the Department of Biological Sciences at Rutgers University. Lively is interested in the coexistence and coevolution of interacting species, including predator/prey, parasite/host, and plant/pollinator interactions, and the effect of these interactions on the maintenance of phenotypic variation in natural populations.

Lynda Delph earned her bachelor's degree (with honors and high distinction) in 1979, and her master's degree in 1983, from the University of Arizona at Tucson. Both degrees were in ecology and evolutionary biology. Her doctorate, granted in 1988, is in botany from the University of Canterbury. Delph earned a Fulbright Award via the New Zealand–United States Education Foundation at the University of Canterbury in 1983. She received a Busch Postdoctoral Fellowship in 1989 at Rutgers University. Her major research interest is the evolution of plant reproductive strategies.

Departmental kudos

The Department of Biology is in the enviable position of having its faculty and students recognized for their accomplishments. In addition to those listed elsewhere in this issue, we provide here a listing of our most recent kudos.

FACULTY

Keith Clay, associate professor of biology, was one of five 1989 recipients of IU's Outstanding Young Faculty Award.

David Dilcher, professor of paleobotany, was elected to membership in the National Academy of Sciences. He is the *sixth* member of our department so honored by this distinguished organization.

The Biology Club presented the 1988-89 Senior Class Award for Teaching Excellence in Biology and Dedication to Undergraduates to **James Holland**, professor of biology.

Eugene D. Weinberg, professor of microbiology, was guest speaker at the Tenth Annual Breneman Lecture, presented in honor of William R. Breneman, Luther Dana Waterman Professor Emeritus. Weinberg's talk was entitled "The Role of Listening in Medical Discovery."

GRADUATE STUDENTS

James Bier, a student in Keith Clay's laboratory, received a National Science Foundation Graduate Fellowship. Bier, studying the mutualistic ecology of grasses and fungal endophytes, will receive a stipend of \$12,300 per year. Established in 1952, more than 25,000 of these fellowships have been awarded to highly talented graduate students.

Kelly Sullivan was named the Outstanding Associate Instructor for the 1988-89 academic year in recognition of her teaching skills and dedication to students. She was the associate instructor for Gerald Gastony's Vascular Plants course.

UNDERGRADUATES

The Biology Club Award recognizes outstanding service to the undergraduate club and the department. Awards: \$100 each. Recipients: **Lisa Kercher**, a senior biology/psychology major, and junior biology major **Rekha Rajkumar**.

The Biology Undergraduate Research Award is presented for the best papers detailing the independent laboratory research projects conducted in the Biology L490 class. Awards: \$250

(continued on page 4)

Research update

Professor Norman Pace (BA'64 Bacteriology) leads a particularly active team of researchers. The researchers are studying the synthesis, structure, and function of RNA, as well as the application of molecular biological tools to problems in microbial ecology.

One of the main efforts of the laboratory is the study of RNase P, an RNA processing enzyme. This is a particularly interesting enzyme as compared to the "standard" protein enzyme because the catalytic element in RNase P is itself an RNA. Studies underway include analyses of the structure of the RNase P RNA, the nature of its interaction with its substrates, and the mechanism of the RNA-catalyzed reaction.

The team is also developing methods for analyzing phylogenetic and quantitative aspects of natural microbial populations without the necessity for laboratory cultivation. The methods rely on cloning and sequencing ribosomal RNA (rRNA) genes for phylogenetic analyses, and the use of rRNA-based hybridization probes for various studies of microbial ecosystems. Investigations are directed particularly toward submarine hydrothermal vent microorganisms and marine picoplankton.

The work cited above has potential medical application, as lab members have devised a way to identify single microbial cells by use of fluorescent dyes. For some time, biologists have used radioactive probes to identify cells, but these probes are not desirable in clinical applications. Using the new technique developed in Pace's lab, a physician could quickly determine the identity of an unknown organism using organism-specific probes. This could be done without cultivation of the organism in the laboratory. This research was published in the March 1989 issue of *Science*.

Pace and his staff have written more than a dozen articles during the past two years. Some of these articles have appeared in the following journals: *Cell*, *Deep-Sea Research*, *Gene*, *Journal of Bacteriology*, *Methods in Enzymology*, *Nature*, and *Science*.

IU's *Drosophila* Stock Center receives additional funding

In 1987, the IU Biology Department took over the *Drosophila melanogaster* Stock Center upon the retirement of its director, Professor Edward Lewis of the California Institute of Technology. The continuation of the center was essential, as this gene bank keeps safe the mutations that researchers discover, insuring that the flies are available for use worldwide.

The service is free to scientists who use these fruit fly mutations in their research. Researchers find the fruit fly an ideal source of study thanks to its small genome, its short 10- to 20-day life cycle, and its 5,000-10,000 genes, all of which are capable of mutation.

The center was funded by IU's Office of Research and Graduate Development and the National Science Foundation. Dr. Thomas Kaufman, IU professor of biology, was appointed director of the center. There are only two other similar facilities in the world, one at Bowling Green, Ohio, and the other in Sweden.

Dr. Kathleen Matthews serves as curator of the Stock Center and over-

sees a team of three workers who handle its day-to-day operations. They maintain a computerized list of the facility's 3,200 different genotypes. In a one-year period, 864 requests for fruit flies were processed, with 3,602 cultures being provided to laboratories in 21 different countries.

Last year, the Howard Hughes Medical Institute provided a grant in excess of \$322,000, which enabled the department to open an adjunct center with different strains of fruit flies. The flies in this new center have genes that contain transposable elements, and the grant will enable the gathering and analysis of these flies.

The Hughes grant runs through July 1990, at which time the analysis of the stock will be completed and the adjunct collection will be absorbed by the Stock Center. The National Science Foundation has provided an additional \$1.1 million grant, effective June 15, 1989, which will enable the center to maintain these larger collections and continue the distribution of the stocks.

Kudos

(continued from page 3)

each. Recipients: **Cara Hanes**, BS core biology, and **Anna B. Pawul**, biology/chemistry.

The Susan Butler Award is a University-wide scholarship given to a female senior who demonstrates high standards in scholarship and character and plans to pursue graduate or professional study. Award: \$1,700. Recipient: **Beth A. Deal**, biology.

The Howard Walton Clark Scholarship was established to encourage scholarship in botany, soil building, and plant breeding. Award: \$250. Recipient: **Michael Baker**, a senior biology major.

The Cook Competition is sponsored by the Bloomington-based Cook Group to recognize the best paper submitted on the design and development of a medical device. Award: \$1,000 and the opportunity to interview for a summer internship with Cook, Inc. Recipient: **Michael Ardaiz**, whose paper proposed the modification of a naso-pharyngeal tube. Honorable mention to **S. Ashley Speckhart** for her paper on the design of an ear suction syringe to remove foreign objects. The department awarded Ashley \$250 in recognition of her efforts.

After a nationwide competition, 136 outstanding math and science students were selected to receive Goldwater Scholarships, named to honor the former Arizona senator. Awards: up to \$7,000 each. Recipients: **Denise Yoder McKinley**, biology, and **Eyal H. Barash**, specializing in microbiology while working toward degrees in history and chemistry. Our state had more winners (five) than any other.

The Rex Grossman Award, established by R. Daniel Grossman (BA'73 Biological Sciences) in honor of his father, recognizes outstanding premedical students who demonstrate the potential to become caring physicians. Awards: \$500 each. Recipients: **Beth A. Deal**, biology, **Long T. Quan**, BS core biology, and **Stephanie Recktenwald Liebeschuetz**, biology/chemistry.

Honors Division Summer Research Grants are awarded after a University-wide competition. Amounts: \$1,200. Recipients: **Michael A. Menke**, microbiology, and **Darren Wirthwein**, biology.

The Honors Division also provides teaching internships in biology. Amount: \$2,000–2,500 via the Work

Study Program. Recipients: **Michael Ainsworth**, biology, **Laura Finch**, biology, **Karen Underwood**, BS core biology, **Jeffrey Swertfeger**, biology, and **Darren Wirthwein**, biology.

The Indiana Biology Plan, funded by the Howard Hughes Medical Institute, awarded stipends and/or supply grants to students conducting original research through the L490 course. The total amount awarded was in excess of \$10,000. Individual stipends ranged from \$100 to \$300 and supply grants were granted up to \$500. Recipients include: **Rachael Bowles**, **Tracey Chandler**, **Catherine Chiu**, **Aaron Cho**, **Arlene Dent**, **Margaret Drummond**, **Jay Dutton**, **Martha Gerteisen**, **Kathryn Hagen**, **Michelle Hicks**, **Jacqueline Jaskula**, **Donald McMahan**, **Teresa Mench**, **Michael Menke**, **Gary Riddle**, **Amy Rogge**, **Mary Anne Rubio**, **Benjamin Sanders**, **Joel Schaley**, **Joe Schaefer**, **Joseph Schulz**, **Troy Sparks**, **Ashley Speckhart**, **Jennifer Walcott**, and **Darren Wirthwein**.

The L. S. McClung Scholarship was established by Con F. Sterling (BA'42),

the first undergraduate to receive a degree in bacteriology. Awards: \$2,000 each. Recipients: junior microbiology majors **Christopher C. Frye** and **Michael A. Menke**.

The Fernandus and Elizabeth Payne Scholarship (the department's oldest undergraduate award) recognizes our outstanding students who pursue careers in teaching or research. Amounts: \$250–\$750, depending upon need. Recipients: **Kent V. Hasen**, biology; **Denise Yoder McKinley**, biology; **Tonia L. Parker**, biology; **Catherine C. Robb**, biology; **David Underhill**, biology and religious studies; **Karen Underwood**, BS core biology; and **Darren Wirthwein**, biology.

The Undergraduate Summer Biomedical Research Program Assistantship gives talented undergraduate students an opportunity to gain experience in biomedical research by working in the labs of medical school faculty as undergraduate research assistants. Award: \$800. Recipient: **Darren Wirthwein**, biology.

Student profiles

Alumni often ask about the current generation of students within the department. We have an average of 771 undergraduate students enrolled in our program per year. Of these, nearly 85 percent are biology majors while approximately 15 percent major in microbiology. We confer almost 200 degrees each year.

Sarah K. Woodley is a fine example of our undergraduates. Sarah graduated with honors in August 1989, with a BS core biology degree and a BA in French. She is a member of the Golden Key National Honor Society, had an Honors Division Scholarship for four years, and was inducted into the Phi Beta Kappa Honorary Society in 1988. Sarah was a 1989 recipient of one of the prestigious University-wide Beryl Showers Holland Awards and two years ago received the department's Fernandus and Elizabeth Payne Scholarship.

Sarah spent the 1987–88 academic year in Strasbourg, France, through IU's Overseas Studies Program. "That was a wonderful experience. I took French grammar and literature courses. My dad visited for three weeks during the summer and we camped throughout France." Sarah was also a science education instructor with IU's Hilltop

Gardens for three summers and volunteered at the Cape Lookout National Seashore via the Student Conservation Association.

Under the tutelage of Dr. Craig Nelson, Sarah conducted an independent L490 research project that dealt with salamanders. She earned the department's Eigenmann Scholarship which enabled her to enroll in a five-credit course this summer at the Highlands Biological Station in North Carolina. The class, entitled *The Biology of Plethodontid Salamanders*, exposed Sarah to salamander evolutionary history, genetics, demography, and ecology.

In reflecting upon her undergraduate years, Sarah said, "IU was the right choice for me. The best part of biology was the personal aspects. Not only are the faculty accessible, but staff members, like the academic advisers and those who work in the departmental office, are supportive as well.

"My instructors were great, and even those who didn't know me were willing to take time to help. I was interested in the graduate school at Chicago and asked Dr. Sam Skinner about it since he'd been there. He spent over an hour discussing the program, telling me about Chicago's faculty, and

(continued on page 5)

Student profiles

(continued from page 4)

giving me tips on the interview process.

"Dr. Bill Rowland did the same thing when I asked him about Berkeley. Dr. George Malacinski, who enjoys biking, took the time to help me figure out how to transport my bike to North Carolina for the class at Highlands Biological Station. My brothers went to private schools and none of them had this kind of personal attention."

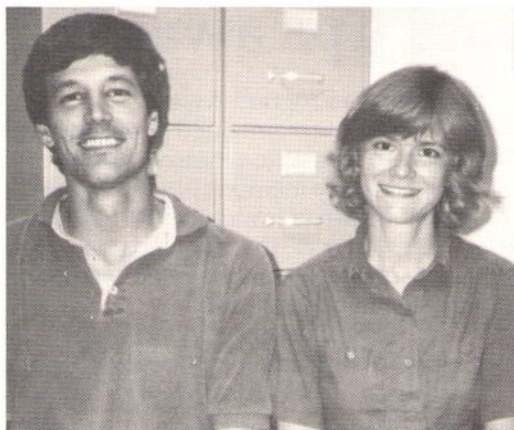
Sarah is enrolled in the Ecology and Evolutionary Biology Program at the University of Chicago, where she will continue her study of salamanders. The course at Highlands Biological Station and her L490 experience will give her a solid base with which to begin her research of these amphibians. Upon graduation, she would like to work in a university setting teaching and conducting research.

At the graduate level, there are several disciplines available to students: ecology and evolutionary biology; genetics; microbiology; molecular, cellular, and developmental biology; plant sciences; and zoology. There are 29 students enrolled in departmental master's programs and 108 doctoral candidates. On average, ten students per year graduate with master's degrees and 15 with doctorates.

Jennifer and Casey Kopczynski are two noteworthy examples of our doctoral students. Jennifer earned a BA in biology from the University of North Carolina at Chapel Hill in 1983. She was an undergraduate research assistant in UNC's Bacteriology Department for a year.

Casey received his BA in biology from Washington University at St. Louis in 1983. While working toward his undergraduate degree, he returned home to Chapel Hill during the summers of 1981 and 1982 to work in a laboratory at UNC's Department of Bacteriology and Immunology.

The two met at a Chapel Hill pizzeria during the summer after their freshman year of college and were married the year they graduated. They found employment as research technicians at North Carolina State University, Jennifer in a microbiology lab and Casey in the Genetics Department lab. As a result of work done at NC State, Jennifer had a paper published in *Science* in 1986, entitled "Nitrogen fixation by *Azotobacter vinelandii* strains having deletions in structural genes for nitro-



Casey and Jennifer Kopczynski

genase."

The Kopczynskis entered IU in the fall of 1985 and were accepted into our Molecular, Cellular, and Developmental Biology Program. Jennifer works in Dr. José Bonner's lab and studies the transcriptional regulation of a set of genes that encode heat shock proteins, using molecular genetic techniques to make mutations in the heat shock gene specific transcription factor. She received a National Institute of Health Training Grant in 1987.

Casey, who works in Dr. Marc Muskavitch's lab, investigates the role of the gene *Delta* in *Drosophila* neurogenesis in an effort to understand how the *Delta* gene product functions during the development of the nervous system. For 1985-86 he was awarded a graduate fellowship from the Institute for Molecular, Cellular, and Developmental Biology, and he received a National Institute of Health Training Grant from 1986 to 1989.

He co-authored a paper, "*Delta*, a *Drosophila* neurogenic gene, is transcriptionally complex and encodes a protein related to blood coagulation factors and epidermal growth factor of vertebrates," which appeared in *Genes and Development* in 1988 and a second article, entitled "Complex spatiotemporal accumulation of alternative transcripts from the neurogenic gene *Delta* during *Drosophila* embryogenesis," is due to be published in *Development*.

For now, the two don't have much time for social activities, but say they enjoy "good, cheap entertainment" such as hiking in the state parks. Casey and Jennifer have taken up golf and occasionally go windsurfing. One of the activities they enjoyed most, however, was playing in the city's softball league. Biology faculty, grad students, and postdocs played on a team, and they were delighted that Chairman Tom Blumenthal regularly attended the



Sarah K. Woodley

games to cheer them on to victory!

Despite working in the same department, Jennifer and Casey don't see much of one another during the day. They occasionally have lunch together and do try to meet at home for dinner each night. Then it's back to Jordan Hall for both of them, who, like most graduate students, spend long hours in their respective labs.

Both enjoy academic life. Jennifer especially appreciates the many opportunities to meet with faculty on an informal basis to discuss papers and research. Casey appreciates the strength of the developmental biology program and the flexibility involved in being able to conduct one's own research. After graduation, the two plan to look for postdoctoral positions in the Boston or San Francisco Bay areas.

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 Alumni Association, to encourage alumni interest in and support for Indiana University.

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Two new scholarships awarded in Biology

Microbiology Undergraduate Summer Research Program Award. In 1987, Con F. Sterling, AB'42, established a scholarship in honor of Professor L. S. McClung. McClung and his wife, Ruth, were so delighted that they in turn created one of their own. With help from their friends, colleagues, and alumni, the McClungs established the Microbiology Undergraduate Summer

Research Program Award.

McClung maintains that an introduction to scientific research, supervised by a faculty member, is essential to the training of an undergraduate microbiology major. The above-named fund was created to ensure that our students have this opportunity.

The first recipient of the Microbiology Undergraduate Summer Research Program Award was Michael A. Menke, who received \$250 this summer. A senior working toward his bachelor of science degree with honors, Mike is an outstanding student. He is a member of the Golden Key National Honor Society and has been on the Dean's List since 1985.

Mike was a 1989 recipient of the L. S. McClung Scholarship, and also received an Honors Division Research Grant this summer. He worked under the tutelage of Dr. Judith Jaehning. The molecular biology of yeast genes, specifically in the area of nuclear and mitochondrial RNA polymerase action during the initiation of transcription, is Mike's research interest.

The department has met more than two-thirds of the \$30,000 goal for this fund. When this figure is met many more microbiology students will be able to benefit from this wonderful experience.

The Blatchley Nature Study Club Scholarship. It is rare for a department to be contacted unexpectedly by an organization eager to give a scholarship to a deserving student. Biology was fortunate enough to have this happen when the director of the Blatchley Nature Study Club, Victor Snider, wrote with the news that his organization wanted to provide a scholarship to a student interested in graduate work in plant biology or ecology and evolutionary biology.

Snider presented the \$500 scholarship to graduate student Tim Horan at the biology awards banquet. Horan is studying the evolutionary and behavioral ecology of *Gambusia affinis*, a small fish introduced to Indiana waterways to control the mosquito population. Horan will attend one of the club's meetings next spring to give a presentation on his research.

The Blatchley Nature Study Club was established in 1922 as the Hamilton County Nature Study Club. It was incorporated as a nonprofit organization in 1941 under its present name, which was chosen to honor Indiana naturalist W. S. Blatchley. The group has a clubhouse situated on 15 acres of land established as a sanctuary for wild flowers, plants, and wildlife.

Biology L499

The department recently created a new course, L499, Internship in Biology Instruction. Applicants need not be biology majors to be selected, but must have either successfully completed the course in which they want to intern or otherwise show proficiency in the topic. Students selected for this three-credit-hour course have the opportunity to run discussion sections for lecture courses such as Introductory Biology Lectures (a nonmajors course), Molecular Biology, and Cell Biology. Interns work with faculty to devise problems and study aids that help students learn and apply course information.

Internships are also available for laboratory sections of Evolution and Diversity; Biological Mechanisms; the nonmajors course Humans and the Biological World; and Genetics Laboratory. Interns for these courses help run the lab, working closely with the associate instructors to prepare laboratory materials and troubleshoot lab experiments.

Feedback from instructors, interns, and students has been positive. Dave Able, who earned his BS in biology in August, interned for an Introductory Biology Lectures course taught by Dr. John Phillips. Dave says, "I was able to present a couple of lectures to the class on game theory and territoriality. I even held office hours to help students in the course. It was a great experience." He received an Undergraduate Excellence in Teaching Award in recognition of his work with this class.

Able entered graduate school this fall at Cornell, where he works with behavioral ecologists Craig Adler and Paul Sherman. He says that the faculty at Cornell were impressed with his internship, considering it quite an accomplishment. He adds, "I would recommend L499 highly to any student interested in teaching experience."

Biology says goodbye to a special friend

Ruth M. Sonneborn, wife of Distinguished Professor Tracy M. Sonneborn, died on January 28, 1989, at the age of 85. Ruth took an active interest in her husband's work and could be counted upon to take his graduate students and their families under her wing.

Even after Professor Sonneborn's death in 1981, she maintained her ties with the department. Mrs. Sonneborn was a strong supporter of the Sonneborn Lectureship, always arranging to attend the events and presentations connected with the lectureship.

Mrs. Sonneborn did not limit her interests to her husband's work, however. She was a member of the Bloomington Women's Club, active in the League of Women Voters, and a volunteer coordinator for the Meals on Wheels program.

She helped organize the Bloomington Planned Parenthood Association and served as one of the first board members of Planned Parenthood of South Central Indiana. In 1983, Mrs. Sonneborn was given the Margaret Sanger Award in recognition of her efforts on behalf of this organization. Also instrumental in forming the Monroe County Community Service Council, she was given its Meritorious Service Award in 1965 for her many contributions to the community. Even in the last months of her life, Mrs. Sonneborn could be found attending departmental functions, coordinating the Meals on Wheels program, and participating in many community activities. She was a warm, charming woman. Those of us in the department as well as the community will miss her enthusiasm, zeal, and dedication.

Alumni news

If you would like news published in this section, please send us details such as occupation, recent professional and community activities, awards, names of spouse and children, pets, hobbies, and interests. You can use the coupon on page 9 for this purpose.

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.

1929

Louise Ritterskamp Rosenzweig (Zoology). Research assistant in psychology, Washington University at St. Louis. Enjoys classical music and wildlife conservation.

1942

Adolph Hecht, PhD (Botany). Served in the U.S. Air Force. Taught biological sciences at University of Chicago, 1946-1947. Professor of botany and genetics, Washington State University. Employed by Group Health in Seattle. Past president of Washington State University Retirees Association. Active in Whitman County Democrats; former county chairman. Enjoys gardening, foreign and domestic travel.

1943

Russell J. Barnett, MD (Zoology). Was chair of cell biology and dean of graduate studies at Yale, New Haven, Conn. On sabbatical to write a book. Built a new house. Has three children and four grandchildren.

Elsie Ann Chivington (Bacteriology). Lives in Clearwater, Fla., with three Chinese pugs and a toy Boston terrier. Active in political issues. Has the distinction of being the first female to obtain a bacteriology degree on the IU-Bloomington campus.

1946

Doris Fessler Baker (Bacteriology). Worked at Indiana Medical School, Pitman Moore Pharmaceutical, New York State Department of Health, and most recently, at Albany Medical Hospital. Volunteers at the Salvation Army Soup Kitchen. Enjoys hand weaving and clothing construction. Lives with husband in Delmar, N.Y.

1947

Jack E. Jackson (Zoology). Started American Laboratories, Inc.; is CEO and chairman. Married IU alumna Pauline Snoke. Member of Masonic Organizations. Enjoys golf, glass cutting, and horse racing—thoroughbreds. Resides in Omaha with his wife and three children.

Donald Charles Scott, PhD (PhD Zoology). Professor Emeritus, Division of Biological Sciences, University of Georgia. He and his wife, Lois, have five children and reside in Athens, Ga. Former Georgia Conservancy trustee, and former trustee and

president of the Highlands Biological Station in North Carolina.

1949

James L. Shaffer (Zoology). Retired from Ashland Chemistry Division of Ashland Oil. First novel, *Peterbilt to Laredo*, published by St. Martins Press. Resides in Miami, Fla.

1950

James D. Watson, PhD, ScD (PhD Zoology). Director of Cold Spring Laboratory, N.Y. Named by the National Institutes of Health as the associate director for Human Genome Research.

1955

John R. Racik (Bacteriology). Executive vice-president and general manager of KPR Advertising, a healthcare advertising agency. He has three children and lives with his wife, Patricia, in Parsippany, N.J.

Morris Zimmerman, PhD (PhD Biology). Took early retirement from Merck, Sharp & Dohme.

1958

Sidney Fleischer, PhD (PhD Biology). President of the American Biophysical Society. Professor of molecular biology, Vanderbilt University, Nashville, Tenn. His wife, **Becca Patras Fleischer** (MA'55) (PhD'58), is a research associate professor at Vanderbilt.

1959

Robert L. Stone, PhD (PhD Bacteriology). Retired research immunologist, Eli Lilly and Co. Recognized for long-term service to Indianapolis Zoo as animal health and research adviser. Resides in Indianapolis.

1960

Stephan R. Taub, PhD (PhD Zoology). Professor of biology (and former chairman), George Mason University, Fairfax, Va. Research in migratory bird populations, statistics, and computer applications. Wife, Louise, is an information specialist with the National Cancer Institute. Enjoys bicycle touring, logging as many as 3,500 miles in a year. Often rides a tandem bike with Louise.

1965

David B. King, PhD (PhD Zoology). Was chairman of the Biology Department at Franklin and Marshall College. Appointed the Dr. E. Paul and Frances H. Reiff Professor of Biology. Resides in Lancaster, Pa.

1966

Patricia Shane Bowers (Biological Sciences). PhD in science and reading from University of North Carolina. Math, science, and reading coordinator at Chapel Hill-Carrboro City Schools. Lives with husband, Tom, and two children. Volunteers for various community and school committees. Enjoys gardening.

1968

Frances B. Ivker (MA'63 Zoology) (PhD Zoology). Has own ob-gyn practice in East New Orleans. Lectures at LSU and in the community on ob-gyn and women's issues as well as the role of the wife/mother and professional. Married to IU alumnus **Barry Ivker**, MA'64, PhD'68. They live with their three children in New Orleans.

1969

Paul J. Borgmeier, Jr., MD (Zoology). Rheumatology and internal medicine physician. Married with two children. Enjoys fishing, softball, and golf. Lives in Vero Beach, Fla.

Barbara J. Robison (Microbiology). MS'76 Ohio State University. Formerly a microbiologist at Mead-Johnson and a senior project leader at Ross Labs. Now research associate and area manager at Organon Teknika Corp. Enjoys horseback riding, reading, and tennis. Resides in Raleigh, N.C.

1970

Loren W. Hunt, Jr., MD (Zoology) (MD'73). Senior associate consultant allergist/pulmonologist at Mayo Clinic, Rochester, Minn. Wife, **Martha** (BA'73 Spanish/French), an IU alumna.

Harold O. Wyckoff, Jr., DDS (Zoology). Dentist in private practice. Lives with wife, Alyson, and daughter, Whitney, in Des Plaines, Ill.

1971

Thomas J. Cittadine, MD (Zoology). Orthopaedic surgeon, private practice, in Noblesville, Ind. Published an orthopaedic terminology and sports medicine word-book.

Cary D. Cox (Zoology) (MS'76 Education). Administrative director/lab pathologist. MBA from University of Phoenix this year. Lives in Lake Havasu, Ariz.

David Gring (MA'70 Zoology) (PhD Zoology). President of Roanoke College, Salem, Va. Member of the American Association of Higher Education. He and his wife, Susan, have two children.

1972

Bruce C. Byrne, PhD (Zoology '67) (PhD Genetics). Visiting scientist and AIDS researcher, SUNY Health Science Center, Syracuse. A professor of biology at Wells College, he is on sabbatical to conduct research with Dr. Bernard Poiesz at SUNY.

Donald L. Cronkite, PhD (Zoology '66) (PhD Zoology). Faculty member of Hope College, Holland, Mich. Received the Hope Outstanding Professor Educator (HOPE) Award in 1988.

1974

George R. Horton III, DDS (Biological Sciences) (MS'78 Microbiology/Immunology, IUPUI) (DDS'80). Private dental practice in Pinehurst, N.C. On the Moore County

(continued on page 8)

Alumni news

(continued from page 7)

Board of Health. He and his wife, Linda, have two children. Claims to be the biggest IU basketball fan, having bought a satellite dish to insure he sees the games.

Cora E. Musial, PhD (Microbiology). Had a postdoctoral fellowship in clinical microbiology at Mayo Clinic. Stayed another year to do research in the Clinical Microbiology Department and teach at Mayo Medical School. Medical student at SUNY-Buffalo.

Joel D. Richter, MD (Biology). Promoted to senior scientist at Worcester Foundation for Experimental Biology. Member of the American Society for Biological Chemistry and the American Society for Microbiology. Resides in West Newton, Mass.

1975

Diana Dunn Clark, MD (Biological Sciences) (MD'79). In private family practice. Married to Dr. Steven Clark; they have three sons. Lives in Greenwood, Ind.

Bruce F. Patterson, MD (Biological Sciences/Chemistry). MA'78 University of California, Santa Barbara; MD'80 Loyola University. Clinical instructor of medicine at Stanford University Medical School. 1988 Diplomate, American Board of Internal Medicine.

1976

Susan Brokaw, MD (Biological Sciences) (MD'80). An associate pathologist at Deaconess Hospital in Cincinnati. Lives with husband, **Dirk Wonnell** (MD'82), and their children. Father, sister, two brothers, two sisters-in-law, and brother-in-law are all IU graduates.

Lori Failla (Biology). Teaches honors biology, biology, and bacteriology in Annapolis, Md. Sunday school superintendent of her church in Arnold, Md., where she resides with husband, **Mark Failla** (MA'75 Microbiology) (PhD'76 Microbiology).

Jack D. Rush (Microbiology). MD'80 University of Chicago. Residency in family practice. Works for North Jefferson Health Systems. Married **Laurie Watson** (BA'76 Anthropology). They have three children, reside in Clayton, N.Y., and enjoy wilderness camping and boating on the St. Lawrence.

Daniel R. Turnbull (Biological Sciences). DDS'80 Ohio State University. In private practice in Cary, N.C.; resides in Raleigh.

1979

Ronald S. Gensburg, MD (Chemistry/Biology) (MD'82). Certified by the American Board of Radiology. Fellowship in angiography/interventional radiology at University of Pennsylvania.

Keith D. Mullin (Biological Sciences). MS'82 Zoology, Northwestern State University; PhD'88 Biology, Mississippi State University. Employed by National Marine

Fisheries Services, Pascagoula, Miss. Enjoys canoeing and bird watching; has two dogs: Jason, a golden retriever, and Buddy, a shepherd mix.

Gregory E. Phillips, DDS (Biology/Chemistry) (DDS'84). Private practice in Bloomington. Accepted to a two-year periodontic residency program at IU School of Dentistry. Married **Stephanie J. Bolt**; they have one son and a cocker spaniel named **Henderson** (after the Bloomington street where he once lived).

John J. Saksa (Biology). Master's in management from Northwestern. Manager of financial reporting and accounting at **Datron, Inc.**, which serves the aerospace, commercial aviation, defense, and industrial markets. Resides with wife, **Eileen**, in Woodridge, Ill.

Anne Henley Wright, MD (Biological Sciences) (MD'83). Private ophthalmological practice in Kokomo, Ind. Provides free eye care to those with financial need. Married **Tom Wright**.

1980

Michael L. Bentz, MD (Biology/Chemistry). Completed general surgical residency at Temple University Hospital. Research and clinical fellowships at Department of Plastic and Reconstructive Surgery at University of Pittsburgh. Married **Kim Livingston**, a pediatric intensive care unit nurse.

Chad J. Davis (Biology) (MD'84). General surgical residency at Mayo Clinic. Interested in fellowships in vascular and general thoracic surgery.

Lloyd Lewis, Jr., MD (Biological Sciences) (MD'84). Completed residency in ob-gyn, and has a private practice. He and his wife, **Pamela** (MS'83 Dietetics), reside in Tampa, Fla., with their daughter, **Lauren Marie**.

Jeffrey A. Platt, DDS (Biology) (DDS'84). Private practice in Fort Wayne. An associate professor in dental auxiliary education at IPFW. Wife, **Catherine Lingle Platt**; they have three children.

1981

Robert H. Cinatl (Microbiology) (DDS'85). Captain in U.S. Army Dental Corps, 7th Special Forces Group (Airborne). Active in church, community, and athletics. Resides in Fayetteville, N.C.

Karen Hrisomalos Feters (Biology) (DDS'85). General practice residency at Wishard Hospital, Indianapolis. In private practice with her sister, **Elaine Hrisomalos Coghlan** (Biology'83) (DDS'87). Also treats temporomandibular joint problems. Married to Dr. **Clifford Feters** (MD'85). Involved in many community activities including fundraisers for muscular dystrophy.

Janet Bokern Palfey (Biological Sciences). Test and evaluation officer, directorate of combat development, U.S. Army Ordnance Center and School. Awarded the First Oak Leaf Cluster. Married **William J. Palfey, Jr.** Both are U.S. Army captains.

1982

David S. Brokaw, MD (Biology) (MD'87). Specializing in orthopedic surgery. Resides in Indianapolis.

Karen A. Kraco (Biological Sciences). Obtained EdM degree from Harvard. Teaching high school biology in Milton, Mass. Married **Jeff Plate**. Enjoys cycling.

1983

Kevin J. Powers, DPM (Biology). BS Medical Sciences, University of Osteopathic Medicine and Health Sciences, Iowa; DPM'87, College of Podiatric Medicine and Surgery. Established practice in medical and surgical care of the foot and ankle in Bloomington. (Was a three-year degree candidate in 1983, but the IU degree was not officially conferred until 1988.)

Jane C. Schneider (Biological Sciences). Postdoc in Michigan State University's Plant Research Lab.

1984

Sara L. Flora (Biology). Sales representative, Sandoz Pharmaceuticals. Working on MBA. Has one cat, **K.C.** Lives in Indianapolis.

Linda Lau Lee (Biology/Chemistry). Graduated from SUNY Health Science of Syracuse in 1988. Awarded **Ernest Carhart, M.D.** Award in Family Medicine. Residency in family practice. Resides with husband, **Benjamin**, in Syracuse.

Jacqueline M. Murray (Biology). At Olympic Training Center for Judo in Colorado. Was an alternate for the World Judo Championship.

1985

Joseph Czaja (Chemistry/Biology) (MD'89). Pathology residency IU Medical Center.

Lori A. Mangels (Microbiology). A doctoral candidate in the Department of Pharmacology at the University of Michigan. Received NIH Pharmacological Sciences Training Grant Fellowship. Belongs to the Ann Arbor Track Club and enjoys canoeing on the Huron River. While canoeing she often stops for cider and donuts at the **Dexter Cider Mill**.

Richard G. Seats (Zoology). Account executive for Bioproducts for Science, Inc. Sells immunological reagents. Enjoys snow and water-skiing and books by **Stephen King**. Lives in Indianapolis.

Todd M. Whitlock, DDS (Biology) (DDS'89). In practice with The Dental Group, in Bloomington. Wife, **Jean** (BA'85) (MBA'87) an IU alumna. Enjoys playing golf and tennis, and watching college basketball.

1986

Daniel Feitz (Biology). At Barry University School of Podiatric Medicine, Miami, Fla. Wants an internship specializing in surgery.

Christopher L. Holladay (Biology). Commissioned as an ensign. Took flight

training and was designated a naval aviator. Stationed at NAS Miramar, San Diego; flying the F-14 Tomcat. Promoted to lieutenant junior grade. He and his wife, Terri, enjoy music and movies.

Cathy Huss (Biology). In Peace Corps, stationed in the Central African Republic. Teaching high school biology—in French.

Sam F. LaBudde (Biology). Spent time in New Zealand and China on a media campaign concerning the plight of dolphins. Produced a film, "Where Have All the Dolphins Gone?" narrated by George C. Scott. Received the Founders Award for Humane Excellence from the Society for the Prevention of Cruelty to Animals—Jane Goodall was the previous recipient. Appeared on "West 57th Street" and "Good Morning America" to discuss dolphin issues. Home is in Evansville.

Tony K. Nasser (Biology). Attending IU School of Medicine. Dreams of playing for the Chicago Bears after graduation in 1990!

Louis M. Profeta (Biology). Enrolled at IU School of Medicine. Was at the Indianapolis K-Mart store on April 17 when a bomb exploded, injuring a five-year-old girl. Administered first aid until emergency personnel arrived.

Elizabeth Reuter (Biology). Attending medical school at the University of Osteopathic Medicine and Health Sciences in Iowa.

George ("Brad") Sammons (Biology). At IUPUI Dental School. Hobbies include softball, running, snow skiing, fine wine.

Mary Farrell Stanton (Biology) (BS'88 Medical Technology). Enjoys reading, needlework, and antebellum homes. Lives in Bensenville, Ill.

Ernest L. Washington (Biology). Lab technician at the AMOCO Oil Refinery in Whitney, Ind.

1987

Steven R. Asdell (Chemistry/Biology). Attending IU Medical School. Conducted research at Riley Hospital through the student research program in academic medicine.

Angela L. Barnett (Biology). Attending IU Dental School. Enjoys tennis, golf, and water skiing. Plays on Wishard Hospital softball team. Has a springer spaniel, Gustav van Dentista, or Gus, for short.

James F. Beatty (Biology). Attending IU Medical School.

Elizabeth Beiser (Microbiology). At IU Medical School. Engaged to Rocky Buck of Bloomington. Hobbies include camping, canoeing, and sports.

Joel L. Bez (Biology). Enrolled at Michigan State University College Of Osteopathic Medicine.

Steven D. Billings (Microbiology). Working for Groundwater Technology, an environmental consulting firm. Supervises the Western Bioreclamation Laboratory in Concord, Calif. Plans to return to graduate school to earn a doctorate in environmental microbiology.

David T. Blank (Biology). At Kirksville

(Mo.) College of Osteopathic Medicine. Competed in the 1987 Little 500 and still enjoys competitive cycling. Also competes in triathlons.

Brad R. Bockman (Microbiology). Lab technician at Abbott Labs in the microbiology lab of the quality control department. Hobby is entomology. Lives in Palatine, Ill.

Staci A. Bond (Biology). Attending IU Medical School. Worked in the Hospital Medical Education Program at Bedford Medical Center during the summer.

Sandra L. Close (Biology). MS, Physical Therapy, Columbia University College of Physicians and Surgeons in New York City.

Michelle F. Dolgin (Biology/Psychology). At University of Missouri—Columbia Medical School.

James D. Duncan (Biology). Sales representative for a major pharmaceutical company. Plans to work on an MBA. Lives in Indianapolis.

Diana L. Edds (Biology). Assistant director at the national headquarters of the Humane Society of the United States, Bethesda, Md.

Ruth Ein (Biology/French). Second Lieutenant, U.S. Army, Ordnance Branch, which includes tank/auto maintenance, missiles, and ammunition. Lives in Mays Landing, N.J.

Paul L. Farmer (Biology). Teaches biology at Seymour (Ind.) High School, where he is the head wrestling coach. Married Myra Satterfield in 1988.

John C. Fenoglio (Biology). District scout executive—Crossroads of America Council, BSA, Indianapolis. Hobbies include golf, racquetball, softball, canoeing, and basketball. A Rotarian in Rushville, Ind.

Edward Forman (Biology). At Chicago College of Osteopathic Medicine. Part of the medical staff covering Chicago high school football games. Coaches a high school hockey team, which won the state championship.

Noel G. Garcia (Biology). Member of Delta Sigma Delta. Attends IU Dental School.

Karen K. Gerlach (Biology). Enrolled in doctoral program at IU Medical Center.

Researching Hepatitis B virus.

John C. Gilley (Biology). Sales representative, Eli Lilly. Married IU alumna **Diane Ruth Crosby**, BGS'87; they reside in Lombard, Ill.

Susan Houck Hardin, PhD (PhD Molecular, Cellular, and Developmental Biology). American Cancer Society postdoc at Brandeis University. She and her husband, **Paul E. Hardin**, PhD (PhD'87 Genetics), have one child, Ryan Wesley, and a Dalmatian. They enjoy shopping for antiques. Paul is an NIH postdoc at Brandeis.

Paul C. Hendrie (Microbiology). Student at IU Medical School. Completing combined MD/PhD in microbiology. Hopes to do research and clinical practice in oncology.

Thomas C. Hook (Biology). Employed at Tufts University Department of Cell Biology and Anatomy. Hobbies include architectural design, skiing, and camping. Lives with two cats in Somerville, Mass.

Janet Hudgens (Biology). Despite attending the Purdue MBA program, she remains faithful to IU and the Hoosiers. Misses IU and science coursework. Hopes to work for a Midwestern pharmaceutical company. Lives in West Lafayette, Ind.

Karen Huffman (Microbiology). A PhD candidate in University of Texas—Austin's Department of Microbiology. Researching molecular aspects of iron transport in *Vibrio cholerae*. Lives in Austin with her husband, an IU Biology alumnus.

Tara L. Jackson (Biology). Enrolled in IU Law School.

Rick L. Kline (Biology). Enrolled at IU School of Dentistry. Enjoys the work load and is looking forward to being a dentist in 1991.

Nicole Kott (Biology). Enrolled at University of Iowa Dental School.

Daniel L. Kroft (Biology). Biotechnician at Stephens Scientific. Resides in New Jersey. Enjoys going into New York for Broadway plays and shopping on Fifth Avenue.

Laura L. Lee (Biology). Enrolled in IU Optometry School.

Sam J. Mangiamele (Biology). Employed by General Mills, Inc., as a sales representa-

(continued on page 10)

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 Publications, 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.

Alumni news

(continued from page 9)

tive in Alabama.

Lea Ann Marlow (Biology). Attending IU Medical School. Worked in a Hospital Medical Education (HME) program at Floyd Memorial.

Michael S. Mazurek (Biology). Attending the IU School of Medicine.

Al M. Morrison (Biology). Attending IU Medical School. Enrolled in a Hospital Medical Education (HME) program at Home Hospital in Lafayette.

Vidas T. Noreika (Biology). A student at the IU School of Dentistry. Interested in "Dirty Dancing" and may soon become a dance instructor.

Duc T. Nguyen (Chemistry/Biology). Enrolled at IU School of Medicine.

Patricia A. Raue (Biology). Working at IU on a master's degree in environmental science with an emphasis on applied ecology/policy. Member of the Bloomington Environmental Commission. Is an assistant to the directors of public affairs and resource development. Married, has two cats, and is active in politics.

Richard J. Schamerloh (Biology). Attends IU Optometry School.

Mark C. Senese (Biology). Enrolled at the University of Louisville School of Medicine. Was on the 1987 Little 500 winning team and still rides when he can. Plans to participate in the local Big Brother program and coach local cyclists.

Susan E. Sherman (Biology). Enrolled at Xavier University, Cincinnati, in the Masters of Hospital and Health Administration Graduate Program. President of her class.

Ruth B. Sosniak (Biology/History). Law student at Northwestern University. Was a summer research assistant for the American Bar Foundation, working on biological/health issues and the law. Active in student group that sponsors students in public interest jobs.

Roman A. Steinberg (Biology). Sales representative with Nalco Chemical in the automotive division. Resides in Overland Park, Kans.

David M. Thompson (Biology). Enrolled at IU Medical School.

Gary W. Tighe (Biology). Pharmaceutical sales representative at Berlex Laboratories. Enjoys hunting, fishing, golf, and other outdoor activities. Lives in Noblesville, Ind.

John M. Walker (Biology). Attending IU Medical School. Wife, Amy, teaches remedial reading and math to elementary school children.

Michael S. Wasserman (Biology). Dental student at Fairleigh Dickinson University of Dental Medicine in N.J. Resides in Englishtown.

Eliot R. Wineberg (Biology). Despite acceptance at three dental schools, decided to pursue a career in publishing and is happy with his choice. Lives in Chicago.

Daniel J. Wood (Biology). Employed by Carnation Co. as a retail sales specialist. Married Andrea Ann Stratman; they reside in Indianapolis. He enjoys hunting, fishing, and sports. Plans to return to school for an MBA.

Marc E. Yune (Biology). Enrolled at IU Medical School. Research technologist for IU Hospital Radiology Department. Enjoys martial arts, skiing, golf, tennis, and racquetball.

1988

Laura Moore Haffley (Biology). Was awarded an \$8,000 scholarship by the IU School of Medicine and a \$2,400 summer research fellowship by the Genetics Society of America. Enrolled in the MD/PhD program at IU Medical School. Married Philip Haffley.

Margaret Ryker Lock (Biology). Working at the Medical Center in Indianapolis. Married Dan Lock; they reside in Indianapolis.

Departmental friends

Carol Porter Applegarth (MS'62 Education). A Guidance Counselor at LaPorte (Ind.) High School. Lives on 60 acres of land. Husband, Bill, owns a school supply business. Three children; son, Bill (BS'86 Microbiology), attended IU Medical School.

Barbara Kohn Levine (BA'52 Comparative Literature). Has a master's in library

science. Former librarian for the Michigan Municipal League. Was a docent at University of Michigan Museum of Art; works on the staff as a community education coordinator. Husband, **Myron Levine** (PhD'52 Genetics) is a professor of human genetics at Michigan. They have two children. Enjoys reading, traveling, and music.

Judith Siegel Pacht (BA'52 Philosophy). Food writer/author. Works in anti-nuclear proliferation groups. Enjoys traveling with her husband, Jerry, and spending time with her granddaughter, Jessica Siegel. Lives in Los Angeles.

Roman Saliwanchik. In private practice in Gainesville, Fla., with son, David. They specialize in biotechnology patent law. Married; three children and four grandchildren. Interests are sports, biological sciences, and law.

Joan E. Sonneborn (PhD'62 Biochemistry). Chair of the Program of Aging and Human Development, University of Wyoming. Has two sons. Enjoys scuba, fishing, and karate.

Richard I. Yankwich. AB'76 Stanford University; JD'79 Duke University. Partner in the California law firm of Ware & Freidenrich. He and his wife, Megan, have a springer spaniel, Phineas. Brother, **Leon** (BA'76 Biological Sciences) and sister, **Sandy Capps** (BA'71 Biological Sciences) are IU alumni. The brothers had a friendly wager, and, since both lost, each made a contribution to the other's alma mater!

Hughes grant

(continued from page 1)

gram. Many minority high school students are unaware of career opportunities in the sciences. Often, they don't have science role models or the chance to become familiar with scientific methods and procedures.

Links with high school biology teachers in urban areas will be established in an effort to identify, cultivate, and recruit promising minority students. The IU Minority Achievers Program (MAP) in biology will be expanded. HHMI funds will provide summer research stipends for MAP students to motivate them toward graduate school and careers in the biological sciences.

The Indiana Biology Plan runs through June 1994, and IU is committed to continuing the project through 1999 at the level provided by the HHMI.

Dr. George Malacinski (MA'64 Bacteriology, PhD'66 Bacteriology) will serve as program director and Dr. Ann Richmond (MA and PhD'78 Biology) as associate program director.

Thanks to this project, many wonderful new opportunities will exist for Biology Department students. Future newsletters will highlight some of the program's ongoing activities.

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