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Dean Kumle R. Subhaswamy
When Janice Ramsay arrived at the Indiana University Bloomington campus in the fall of 1960, she was nearly overwhelmed by the possibilities it represented. “For me going into a big university was a world of wonder. The size of the university at that time was probably three times the size of my hometown. My only problem was picking a single direction.” In contrast to the wealth of opportunities she found at IU, however, was the sense that most career paths were, as a woman, blocked to her. After graduation Ramsay worked for a time as a teacher, then one of the few well-accepted jobs for women. Watching men begin graduate and medical school, however, Ramsay decided that was her path as well - and if it was blocked she would clear it herself. She began attending night school and set her sights on a prototypically male dominated profession - the law.

When Ramsay graduated from the University of San Francisco School of Law in 1969 she was one of only four women in her graduating class. During her job search, she was politely turned down by some all male firms and openly discriminated against by others. “One law firm,” she says, “told me they’d never hired a woman, and never would.” When she finally found a position, she was the first and only woman at the firm.

Today, Ramsay is a principal lawyer at the law firm of Berger Kahn in Los Angeles, a regular lecturer to professional organizations, and a frequent expert witness in trials involving property insurance issues. Her success is undeniable and, with it, she has grown to remember her early struggles in the field with wry amusement. “Women today probably don’t realize how different the atmosphere was then. I can laugh about it now, but at the time it wasn’t very funny.”

Ramsay’s persistence, however, was part of a cultural revolution across the nation that helped remove the notion of “acceptable” and “unacceptable” careers for women or any other group.

Ramsay’s experience of being in the female minority academically and professionally prompted her in the early 1990s to make a donation to the IU Gender Studies Program (then the Women’s Studies Program). “I saw it as an area of need,” she explains. “I’m probably still a minority in terms of professional women giving money, so most money is going to more traditional areas of study.” Ramsay chose the recipient of her gift, but says she’s left its application largely to the department’s discretion. With that privilege, the Gender Studies Program established a lecture series and a number of awards.

Because of her continued commitment to the university and outstanding achievements in the legal profession, Ramsay was invited to join the Dean’s Advisory Board for IU’s College of Arts and Sciences. Meeting twice a year, the Dean’s Advisory Board comprises 19 distinguished and nationally prominent individuals motivated by a deep commitment to The College of Arts and Sciences at IUB. They represent diverse professional, geographic, and cultural backgrounds, and are able to provide real world advice to the Dean and the College.

At their meetings, members of the board are treated to what Ramsay calls “fascinating presentations” that keep them up to date on selected departments’ current research, projects, and events. They are also asked to grapple with some of the College’s current challenges. “We try to give input to the College from the perspective of the world outside of academia, as well as to provide contacts that might be helpful,” says Ramsay. She also notes that her connection to the Gender Studies Programs helps her to better understand the issues the Dean presents to the Board by providing close-up examples of the larger issues they discuss.

Despite her substantial legal expertise, valuable perspective on gender issues, and close ties to the Gender Studies Program, Ramsay sees the time she devotes to the Dean’s Advisory Board not as a gift from her to the College but, rather, the other way around. “The Board,” she assures, “has contributed more to my life than I have contributed to the Board.” Though today very far from the awe-struck young woman who first came to IU, Ramsay stays connected to her alma mater for all the same opportunities it provided her then: knowledge, insights, friendships, and the tools to make a difference.
The weekend of Oct. 17-18, 2003 was a special one for the College of Arts and Sciences Alumni Board. The annual recognition banquet took place on Friday evening in the Tudor Room of the Indiana Memorial Union, with about 170 alumni, faculty, and friends of the College present. The evening’s high point was the awarding of the Distinguished Alumni and Distinguished Faculty awards by Dean Kumble R. Subbaswamy.

Mansukh C. Wani, PhD’62, received the Distinguished Alumni Award, and Professor of Geology Lisa M. Pratt received the Distinguished Faculty Award. You can find comprehensive articles on our winners in this issue of the magazine and on our Web site, www.indiana.edu/~college/alumni.

The board held its annual meeting Oct. 18 and installed new officers for 2003-2005. They are: Kathy A. Krueger, BA’80 (biology and chemistry), M.D., president; John E. Burks Jr., PhD’79 (chemistry), vice president; and Ann M. Anderson, BA’87 (history), secretary/treasurer. The board also welcomed a new member, Nancy Labiner. Nancy is a 1991 graduate with a major in art history and French. She is the global recruiting chief of staff for Goldman Sachs and Co. and is a native of New York. We are excited to have her join the board. Further business of the annual meeting included establishing the budget for fiscal year 2003-04 and voting on the recently revised bylaws, which more clearly outline the duties and mission of the board.

This was my last term on the College Alumni Board. I have served on the board since 1996, holding the position of vice president from 1999 to 2001 and acting as your president since 2001. Serving the alumni of the College has been a wonderful and rewarding experience. I have had the privilege of working with other board members who give freely of their time to serve all alumni of the College. The board manages a budget, sponsors events both on and off campus, recruits future students, and supports the publication of this magazine as well as the departmental newsletters. I couldn’t have spent my time doing anything more worthwhile, and I encourage you to get involved and stay connected to the College of Arts and Sciences.

I wish you all the best in 2004!
Martha Heindel Tardy

If you have any questions for the board, contact us at asalumni@indiana.edu.
Known for its fish fries and sweet corn, my hometown was a farming community built along a glacial boundary where the landscape matched that of a blanket on an unmade bed. The schools in this area were small, consolidated, and known more so for their athletics than their academics. Students like me who weren’t on the honor roll or the ball team soon found themselves in the vocational tracks learning a trade, and it was here I took my first welding class.

Welders were heroes in my hometown: they fixed machinery and kept the farmers farming. Welding was a vocation few knew well enough to master, and I was fortunate to learn the science of welding through my high school classes and was one out of two students chosen to attend a larger vocational school to learn different types of welding.

When this happened, when welding began to take me places, I knew that welding would take me other places as well. I studied hard, and the skills I acquired landed me a job in sheet metal fabrication where I welded for ten years.

The economy was up then. The shop I worked in was a small, privately owned business committed to quality rather than quantity. The hours were plentiful; the days were long; overtime was not a problem. They were days of cutting, fitting, and fusing — days of hundred-degree heat that felt clean and refreshing once out of the mask and heavy leathers worn to protect the face, arms, hands, and torso from hot slag, sharp sparks, and blinding light. The well-oiled steel smelled of freshly laid asphalt when heated, and the smoke that rose with the temperature proved just as black. This same blackness I washed from my hair, blew from my nose, and coughed up each night after work. Though the conditions were not the best, at the time, I still thought they fared better than farm work and the hardships of farming.

One evening after work while couched on the sofa, eating left over Hamburger Helper and worn out from another ten-hour day, I began to listen carefully to the film playing on television. Larry McMurtry’s epic western Lonesome Dove was a story of chance and change, and as I listened to the retired Texas Rangers, Augustus McCrae and Woodrow Call, discuss leaving the dust-laden corrals of southwest Texas for a lush new ranch in northern Montana, I began cutting pieces of their discussion away as if it were steel.

Call had heard of Montana’s rolling terrain and lush valleys where the grazing was good and the water pure and longed to see it. And after a decade of working in the same place at the same trade I, too, wondered after each workday, staring into my handkerchief of black, if there was something better out there a far away land where to believe such a place existed meant going there and seeing it for yourself.

As hundreds of cattle and horses were rounded up for the big drive north, I began equating the stock with reasons for trying something new and suddenly found I had hundreds of reasons cut and fitted together.

The most influential scene — the scene that helped me fuse it all together — was when Augustus suddenly abandoned the herd right outside of Lonesome Dove to sit lotus style in the tall grass alongside a little stream just inside a stand of trees to cry softly into a bandanna.

Augustus adored this spot. He had shared, loved, proposed, and quarreled here. In all his life this place, this place where he once picnicked with a woman long ago, was the one place where he was the happiest. He told Woodrow this after he rode up, and there by a little stream in southwest Texas, Ranger to Ranger, Augustus asked Woodrow where in his life he was the happiest. Woodrow being Woodrow ignored the question, but I didn’t.

Having cut, fitted, and fused pieces of my life together with pieces of a western involving chance and change I realized that welding was probably keeping me from something more, reasoning that the same cutting, fitting, and fusing as done in welding could apply to other things, mainly ideas. To one day tell a best friend that out of all my life here, where I stand, was where I was the happiest is a venture that requires many years and many moves. But I am happy with the moves I have made thus far; beginning with the move to higher education. Like welding, education offers promise and a way out, and I suspect education will take me places as welding and a retired Texas Ranger once had.
Wani’s War on Cancer

by William Rozycki

A brilliant intellect and an unwavering desire to save lives led Mansukh Wani, PhD’62, to discover the anti-cancer drug Taxol. Wani is the 2003 winner of the College’s Distinguished Alumni Award.

Even before President Richard Nixon reshaped national health policy by declaring war on cancer in 1971, Mansukh Wani had been fighting that enemy for years. Over the decade leading up to the declared national assault on cancer, Wani analyzed hundreds of plants to isolate and identify naturally occurring compounds that could delay or destroy cancer. Thanks to the research that Wani and his collaborator, Dr. Monroe Wall, undertook in the 1960s, tens of thousands of patients with ovarian, breast, lung, and colon cancer are today survivors.

Born in India, Wani was fascinated from his high school years with the field of medicinal chemistry. In India he earned a bachelor’s degree in 1947 and a master’s degree in 1950, then taught chemistry for eight years at a college in Bombay. “At that point I decided to go overseas to study further,” relates Wani. “I applied to the doctoral program at Indiana University, but, as I found out later, the graduate admissions committee initially planned to reject my application. They felt I had been away from studies too long and wouldn’t adjust to graduate school.” Wani got a reprieve only when Professor Ernest Campagne, a member of the committee, took a second look at Wani’s application. “Campagne pointed out that, though eight years had elapsed since I had earned my master’s, I had been teaching the subject since then. He convinced the committee that I was still sufficiently engaged in the field to be eligible for the program,” Wani relates. Campagne became Wani’s adviser when the academic year began in 1958, and Wani did his doctoral research in Campagne’s laboratory.

After earning his PhD in 1962, Wani took a temporary post at the University of Wisconsin, then joined Wall’s laboratory at the Research Triangle Institute in North Carolina. Working under a National Cancer Institute grant to identify anti-cancer elements in plant species, Wani and Wall in 1966 isolated a potent anti-tumor compound, camptothecin, from a tree native to China, camptotheca acuminata. Five years after identifying camptothecin, Wani and Wall identified a second anti-tumor compound in the bark of the Pacific yew tree, taxus brevifolia. Wall named the compound Taxol. The drug has proven to be remarkably effective in the treatment of ovarian cancer; since the inclusion of Taxol in treatment for ovarian cancer, the survival rate has more than doubled.

Though Wani and Wall identified a pair of potent weapons in the fight against cancer, neither of the two compounds could be deployed immediately. Originally, side effects limited use of camptothecin, so that only years of subsequent development of synthetic analogs, much of it carried out in Wani and Wall’s laboratory, made the drug safe and effective for cancer treatment. Such analogs are now sold by GlaxoSmithKline and Pharmacia, and later-generation analogs with greater potency and solubility are coming to market.

Taxol had an even rockier road to development and at several steps was almost abandoned. The first hurdle was to isolate the active agent from the crude extract of yew bark. The process took years, due to its low concentration. Wani then worked to identify the structure of the compound. His now-deceased part-
ner, Professor Wall, recounted in 1998 for the newspaper The Charlotte Observer those times: “Long before we got the compound out, we felt this was the most potent extract or plant we had ever worked with. Dr. Wani worked very hard to determine the molecular structure. We tried to make X-ray derivatives of the compound, but couldn’t. Then we saw there was a nucleus and a little tail, and Dr. Wani split those two apart. Then we got another X-ray, and with a little more chemical work we got the structure.”

“The greatest moment of satisfaction in my life came when we finally were able to publish our findings,” reports Wani. The publication on Taxol came out in 1971. But the National Cancer Institute did not think it was promising enough to continue funding. In those days, no mechanism existed for collaborative agreements between government and drug companies, so further development simply stopped. Taxol still interested scientists, though. Dr. Susan Horowitz, at Albert Einstein College of Medicine in New York, used Wani and Wall’s description of the structure to analyze its mechanism of action. She found that Taxol interfered with the assembly of microtubules at the cell level. Since microtubule assembly is necessary for cell division, this effectively stopped cells from reproducing. It was the first drug known to have such an effect.

With Horowitz’s explanation of the antitumor effect came an interest in clinical trials. But then a new problem arose. How many more compounds like Taxol are in the wild, waiting to be discovered? How many species are dying out before being tested by science, a fact that distresses Wani. “Unless we do something about preserving biodiversity, these kinds of compounds will be lost forever,” he says.

Five years after identifying camptothecin, Wani and Wall identified a second anti-tumor compound in the bark of the Pacific yew tree, Taxus brevifolia. Wall named the compound Taxol.

By 1989, the government had formulated a mechanism, the Cooperative Research and Development Agreement, by which pharmaceutical companies could use federally funded research to develop drugs for the marketplace. The National Cancer Institute sought companies to take on development of Taxol in return for exclusive marketing rights. Only four were interested. Of the four, NCI chose Bristol-Myers Squibb.

The company spent $185 million developing the drug and bringing it to market. Along the way, a French researcher found a way to extract Taxol from the needles of the yew tree, and other researchers found ways to partially synthesize Taxol. With an ensured supply and after passing clinical trials, Taxol came to market, approved for treatment of ovarian cancer in 1992. In 1998, Taxol was also approved for breast and lung cancer treatment. It has proven to be one of the most effective weapons available in the fight against tumors.

Today, if you hike in the Gifford Pinchot National Forest near Packwood, Wash., you may come across a brass plaque affixed to a two-ton stone. The historical marker commemorates the collection of the original sample of Pacific yew that led to the discovery of Taxol. In part it reads: “Near this location on August 21, 1962, ... a team of botanists from the U.S. Department of Agriculture collected bark of the Pacific yew, Taxus brevifolia Drs. Monroe Wall and Mansukh Wani, of the Research Triangle Institute, North Carolina, under contract to the U.S. National Cancer Institute, isolated Taxol from that sample. Since 1990 Taxol has been the drug of choice for treatment of ovarian cancer and is widely used in the treatment of breast cancer.”

The decades of work by Wani and his collaborator, Monroe Wall, have not just improved the lives of cancer patients, though that is without doubt the greatest benefit of their research. Their work also has led to the discovery of new mechanisms of action for inhibiting cancer growth; and Wani and Wall established new principles for assessing bioactive compounds, thus accelerating the discovery of bioactive compounds from plant, animal, and fungal origins.

As his contribution to medicine has become clearer to the world, Wani has received an increasing number of honors and awards. His native land bestowed on him its Pride of India Award in 1992, and in 1994 he won both the Bruce Cain Memorial Award of the American Association for Cancer Research and the City of Medicine Award. The National Cancer Institute presented him its Recognition Award in 1996, and in the year 2000, Wani and Wall together shared the prestigious Charles F. Kettering Prize, an annual international award recognizing progress in the diagnosis and treatment of cancer.

How many more compounds like Taxol are in the wild, waiting to be discovered? There may be many, and Wani has tested thousands of plants over the years. But many species are dying out before being tested by science, a fact that distresses Wani. “Unless we do something about preserving biodiversity, these kinds of compounds will be lost forever,” he says.

When then-Secretary of the Interior Bruce Babbit came to Duke University in 1996 to promote protection of rare plant and animal species, he highlighted the work of Wani and Wall. It was a shining moment for Wani, but that was eclipsed by what happened after the public ceremony had finished. A young woman approached Wani, carrying a baby. She said, “You don’t know me, but I’m alive today because of what you did. Taxol saved me from breast cancer, and I just had to thank you.”
In the deep diamond mines of South Africa and the red rocks of Mars, botanist-turned-geologist Lisa Pratt, the College’s 2003 Distinguished Faculty Award winner, searches for signs of life.

Earth to Mars

by William Rozycki

Is there life on Mars? When NASA wanted to research the likelihood of life on the Red Planet, it turned to a team headed by Lisa Pratt, professor of geological sciences at Indiana University. Pratt was already researching microbial action deep in mines in South Africa, and the findings from that study may identify the best approach for unmanned probes seeking life on Mars. Her selection to lead the Indiana-Princeton-Tennessee Astrobiology Institute came with a five-year, $5 million renewable commitment from NASA.

Pratt, who earned her PhD in geology from Princeton, is well equipped to lead the cross-disciplinary team that will relate the deep-mine findings to Mars exploration. She has both an undergraduate degree and one of her two master’s degrees in botany. “I grew up out of doors, exploring the natural habitat with my father,” relates Pratt. “My father had planned to be a biologist, but then went into medicine and became a surgeon at the Mayo Clinic.” Pratt and her father regularly collected plant and animal specimens in areas near their home in southern Minnesota; she also remembers with fondness “Baltimore” the tree toad, brought back home by her father after a visit to the city of that name. “It lived in our home for years, and my father and I would regularly go out and dig worms to feed Baltimore,” she recalls.
Pratt loved science, but when she became a teenager, studying science presented difficulties. “In the later years of high school, I became the only girl in science courses. It was terrible,” she says. “It’s a sensitive age; the boys in class were mean to me, and I finally gave up on it.” She went to college as a Spanish major at the University of North Carolina, Chapel Hill. “I tried that for a while, but eventually the sciences were irresistible,” she recalls. “I just couldn’t stay away from them.” She switched her major to botany, and again found joy in her studies.

But how did a botany major get into geological sciences? “I didn’t know the type of geology I was interested in even existed until my junior year,” says Pratt. “I took a course from John Dennison, a charismatic lecturer, about historical geology. I was hooked.” Pratt delayed her switch to geology long enough to gain, at the urging of her academic adviser, a master’s in botany. “It’s fortunate, because I was able to learn the language of molecular fossils by studying biochemistry,” Pratt says. Her specialty is now the study of the history of molecular signatures: the evidence fossils leave of chemical activity at the molecular level.

“Dr. Pratt is a process-oriented geoscientist who uses biogeochemistry to address questions of ‘how’ and ‘why’ rather than leaving off at just ‘what,’” says Christopher Maples, until recently chair of the Department of Geological Sciences at IU, about his colleague. Pratt’s research has produced more than 50 articles on subjects relating to sedimentation deposits, on oceanographic conditions that allow organic matter to be preserved in fine-grained sediments that become black shale; and on the interplay between organisms and inorganic matter.

Yet, excellence in research is but one area of achievement for this scholar and educator. Winner of the Teaching Excellence Award from the College of Arts and Sciences in both 1996 and 1999 and named outstanding educator by the Association of Women Geoscientists in 1997, Pratt has a reputation as a superb mentor to her students. Considered by Jeffrey R. White, associate dean of the School of Public and Environmental Affairs, as “one of the most effective research advisers that I have known in my 24 years in academic research,” Pratt has won the undying loyalty and affection of the graduate students she advises. Brandy Anglen, a doctoral student in the department, says, “Lisa is an amazing adviser. The process of working on a Ph. D. is not an easy one, and her enthusiasm can really help you work through any frustrations, disappointments, or minor setbacks.”

Pratt is also a leader in service to her field and to the university. She was co-chair of the federal Earth and Atmospheric Sciences Panel from 1998 to 2002, and served in 2000 on the National Science Foundation’s panel for Multi-User Equipment and Instrumentation Resources for Biological Science. She was associate editor of the Geological Society of America Bulletin from 1996 to 1998, and she currently serves on the editorial board of the journal Geobiology.

For the university, Pratt served as associate dean for research in the College of Arts and Sciences from 1999 to 2001 and has chaired the steering committee that oversaw the lengthy planning of the Multidisciplinary Science Building, for which the groundbreaking ceremony will soon take place on the Bloomington campus. Juggling the competing claims of IU’s scientific discipline communities for space and facilities in the new building has required leadership, fairness, and determination. White characterizes her role in the process as “visionary.” Pratt is now chair of the steering committee for a second multidisciplinary science building that eventually will go up on the north side of the Bloomington campus.

And what about that question — is there life on Mars? “I would be more surprised if there is no life on Mars than if it is sterile,” Pratt says. “The chief ingredient for life — water — seems to be there.” Pratt’s research in South African diamond mines, where conditions seem inhospitable to life (sunless, with temperatures above 90 degrees Fahrenheit and 100 percent humidity), examines sulfur-like carbons used by many life forms. A change from sulfur to sulfide is a signature of biological activity taking place deep under the surface, and this signature might determine bioactivity in material taken from Mars in a future probe.

While the basis of Pratt’s research is looking at microbial signatures deep under the earth’s surface and related analysis of biogeography on the beds of shallow salt lakes in Oregon, NASA has tasked her group with more pragmatic work as well. “Our team will spend time designing flight-capable instruments for space travel,” says Pratt. “All the instruments we use here are human-operated, but for the Mars probe, they have to be robotic. I’ll be a whole new area for us, thinking about instrumentation in a totally different way.”

Pratt is a successful woman in a science that traditionally has been led by men. Perhaps because of her own struggles in her formative years, Pratt believes strongly in the importance of mentoring. “I had wonderful people who opened doors for me, who believed in me before I believed in myself,” she says. She cites John Dennison, at University of North Carolina, Chapel Hill — the person who first got her interested in geology — and Al Fischer, at Princeton, as two teachers who helped her immeasurably.

Pratt is grateful not just to her early mentors, but also for the support she receives from her husband, Bruce Douglas, an assistant scientist in the Department of Geological Sciences at IU. “It’s difficult to raise a family, teach, and do successful research without help,” she says. “The women I know in my field who are successful have, like me, the support of husbands who are also scientists. When I go off for weeks to do research in mines in South Africa, my husband can explain to my daughters why it is important, why I’m doing what I do. And when he goes off in the summer to do field work in Montana, I can step in to be there for my daughters.”

Director of the university’s Science Outreach program from 1998 to 2000, Pratt also was on the advisory board of the Women in Science program from 2000 to 2003. Students readily talk about the deep impact Pratt has made on their lives. “Lisa Pratt as a teacher and mentor has changed my life and afforded me opportunities that I wouldn’t have dreamed possible five years ago,” relates Eric Boice, a doctoral student in Pratt’s department. Boice came to graduate school later than most, with a poor record in his undergraduate years and the belief that, due to this record, he would not get a chance to do research at an advanced level. But one person saw his potential and had faith. “Lisa saw something in me and believed in me — and I’m not the only one,” he says. Pratt looks out for students, Boice says, who may have lost their confidence or need a second chance, helping them to shine for the world. “This is her gift,” he affirms.

Lisa Pratt
Michelle Tseng

Evolutionary biology
Winner of the College’s McCormick Science Grant
Adviser: Curtis Lively

Michelle Tseng’s interest in studying mosquitoes took her from Canada to Vietnam before landing her in Bloomington. While assisting a professor from the University of Toronto on a research trip to Vietnam, Tseng saw firsthand the impact of mosquito-borne illnesses. “I was floored by the number of children infected and dying of malaria,” she says. “Malaria spreads when an mosquito bites an infected person, and then bites an uninfected person. I became interested in mosquito biology and in whether we could help curb the spread of mosquito-borne diseases such as malaria by improving our knowledge of how the disease affects the mosquito.”

Tseng is in the fourth year of her doctoral program in evolutionary biology at IU. She is studying host-parasite co-evolution with the assistance of her adviser, Professor Curtis Lively. “Most generally, I study the impact of parasites on their hosts,” Tseng explains. “Parasites include things like viruses, bacteria and other organisms that depend on their hosts for food and shelter.”

Tseng is trying to determine how the parasites affect aspects of host health such as survival and population growth rates. “The umbrella question for all of my studies is: Why do parasites harm their hosts when the well-being of their hosts is required for the parasite to survive?” Tseng says. “More specifically, I study the ecological and evolutionary factors that may influence the amount of harm a parasite inflicts on its host.”

In particular, Tseng is interested in the mosquito as a parasite host. She collects mosquitoes and their parasites and monitors their condition. “I run
lots of experiments comparing the health of infected mosquitoes versus non-infected mosquitoes,” she says.

And what is the potential benefit of such research? “I’m hoping that my work will add to our growing knowledge of the factors that influence how much harm a parasite causes to its hosts,” Tseng says. “I’m hopeful that what is learned from my research can be applied to other host-parasite systems as well.”

Tseng has both a bachelor of science and a master of science degree from the University of Toronto. She expects to complete her doctoral work next fall. Her years of work at IU have not been without challenges, and Tseng is thankful to Lively for his help in overcoming those obstacles.

“Designing robust experiments to test the various questions and theories of my thesis has probably been the most challenging part of being a scientist,” she says. “Dr. Lively has been invaluable in helping me with these designs. He has a great sense of how to make sure the experiment is really testing what I want it to be testing.”

Lively says he is impressed with Tseng’s work. “Her research is first rate,” he says. “She brought the project up from scratch and developed new methods in the process. She is also bringing a strong theoretical perspective to the problem, and I think her approach is right on.”

While Tseng does not work with Lively on a daily basis, she says his role has been key to her work. “He asks a lot of really good questions, and he helps me clarify my thoughts and think about problems from many different approaches,” she says. Lively says he always enjoys the advising process. “I have advised many students in the past,” he says. “All of them were very good; some of them were brilliant. It is a great experience, and it is fantastic to have such clever and motivated individuals around.”

Tseng says Lively’s faith in her abilities has been important. “I think that he trusts me to make good decisions, and that to me speaks volumes,” she says. “I’m grateful that I have so much freedom in what I do because I get a huge sense of accomplishment when something goes right, and I also learn an enormous amount from my mistakes.”

Lively says graduate study is “essential” for the College of Arts and Sciences. “The graduate program is the heart and soul of a research department,” he says.

Joshua Shaw

Philosophy
Winner of the College’s Dissertation Year Research Fellowship
Adviser: Michael Morgan

Most advisers have a good working knowledge of the topic their graduate student is pursuing, but Joshua Shaw and his adviser, Michael Morgan, have an even closer tie. Shaw is studying the French-Jewish philosopher Emmanuel Levinas for his dissertation at the same time that Morgan is researching Levinas for a book. The parallel projects have created an excellent support system for both student and adviser. They initially met when Shaw took Morgan’s class on Levinas and Franz Rosenzweig. “We began a reading group with a few students reading Levinas’ first major book, Totality and Infinity,” Morgan recalls. “Joshua got very excited about Levinas and his notion of the primacy of the ethical.”

A little more than a year later, Morgan was planning his book and Shaw was considering making Levinas the focus of his dissertation. “At just about that time, Joshua and I were the only ones left from the reading group on Levinas, and we still meet every week, which we’ve done now continuously,” Morgan says. “So as I’ve been writing my book and he’s been writing his dissertation, our discussions have been as useful to me as I think they’ve been to Joshua.”

Shaw’s dissertation is a broad overview of Levinas’ theories on ethics. “One criticism a lot of people have had of Levinas is that he is too idealistic and it is impossible to extract practical ideas from it, and I’m trying to argue against that,” Shaw says. “Levinas was not a Holocaust philosopher, but he had family members who were, and I am researching the role Holocaust had in shaping his philosophy.” Shaw says Morgan’s expertise has been critical to his dissertation. “Some of Levinas’ writing is notoriously obscure, and I needed someone to help me get the material and walk me through it,” he says. “The fact that Mike understands Levinas’ work has not only been necessary, but crucial.” Shaw says he meets with Morgan weekly for discussions on their research and writings.

While Morgan and Shaw have shared interests, they are focused on different aspects of Levinas’ work. “I think that on many issues Joshua and I agree, but there are places where we emphasize different aspects of Levinas or are puzzled by different things,” Morgan says. “Definitely our focus is different. Joshua is very concerned to clarify the ways in which Levinas is relevant to moral and political thinking and to very particular types of moral problems. My interests are wider: At this stage I want to show how a host of features of Levinas’ thinking contribute in very significant ways to debates taking place in Anglo-American philosophy.”
Richard Beardsley
Chemistry
Winner of the College's McCormick Science Grant
Adviser: James Reilly

Richard Beardsley has devoted his doctoral work to the study of proteins. “What I've been working on is developing analytical methodologies that facilitate how proteins are analyzed,” he explains. There is a high demand for improved knowledge in this area of science, according to Beardsley. “Proteins hold the answer to a lot of key questions in biological systems,” he says. “You can think of them as indicators for when something is wrong and for why it is wrong, such as a disease. A lot of times when someone is sick, the number of a certain protein that is produced will change. I'm trying to find out what regulates that change.” Beardsley says his laboratory work isn't focused on developing new drugs, but that is likely where it will have the most significant impact. “A lot of drugs are developed to act on a certain protein, whether it be to inhibit or increase its activity,” he says.

Although much of his graduate work has been performed in lab research, Beardsley says he would ultimately like to remain in academics, ideally with a research group. His adviser, James Reilly, is an IU chemistry professor. “We talk on a weekly basis, and I give him an update of what I'm doing,” Beardsley says of their interaction. “If I am stuck with something, he is always very helpful. It’s a pretty laid-back relationship.” Beardsley says he appreciates that relaxed relationship as he pursues his research. “(Reilly) gives me a lot of freedom, and that allows me to do what I want to do,” he says. “He isn’t micro-managing, and I obviously want to have as much control as I can.”

Beardsley believes the success of a student-adviser relationship is dependent upon an understanding of individual preferences. “Some people don’t like to be given so much freedom. Maybe they’d prefer more guidance,” he says. “It varies for each person.” Reilly says Beardsley brings a mature approach to his research. “Richard tries to squeeze out as much new information as he can from each experiment that he does,” Reilly says. “Students who push hard in this way are normally rewarded for their efforts.” Reilly also believes Beardsley has had an unusually successful beginning to his doctoral studies. “For most, the hardest challenges come early,” he says. “Since Richard's early research was so successful, we are now thinking about some tougher problems for him to attack. We hope they will work out well also. If not, learning how to cope with occasional research failure is an experience that all graduate students should have.”

Beardsley does not expect to finish his dissertation this year, but he hopes to be done within two years. He anticipates a good deal of research still ahead. “I usually spend 10 to 12 hours a day in the lab,” he says. His work has not gone unnoticed.
Dagmar Riedel

Central Eurasian studies Winner of the College’s Dissertation Year Research Fellowship Adviser: Jamsheed Choksy

While Michelle Tseng’s interest in her doctoral study originated in a trip to Vietnam, fellow graduate student Dagmar Riedel’s began in Germany. Riedel, who also studied Greek, Latin, and musical performance in Germany, spent several years at Hamburg University, where she studied Islamic history with a focus on the medieval period.

“Master’s degrees in Germany are lengthy and intensive in focus,” says Riedel’s adviser, Professor Jamsheed Choksy. “The dual degree in Islamic and Germanic studies required that Ms. Riedel take many more courses and study materials in greater depth than is traditionally required of master’s students at American universities.” Since arriving in Bloomington, Riedel has been studying the origin, nature, structure, and purpose of two medieval manuscripts. One is Arabic, and the other is Persian, but both originated in eastern Iran. “What I’m interested in is the history of reception of these manuscripts,” Riedel explains. “I want to know what it tells us about different fields of knowledge, and in which way content and translation indicates stable knowledge.”

Choksy thinks Riedel’s research is both unique and influential. “The impact is that this could tell us a great deal about how medieval structures evolved in knowledge, and how they affected the modern world,” he says. “Dagmar is looking to see what texts were used at that time, how they circulated, and why some were more popular than others.” Riedel has traced a medieval manuscript from the Iranian plateau to Turkey and Egypt, Choksy says.

Choksy is impressed with both the quality of Riedel’s work and the manner in which she pursues it. “The first word that comes to mind with Dagmar is meticulous,” he says. “That is the legacy of the German training she’s had at the master’s level. She brings a very theoretical approach and looks at questions in broader context. She is a truly brilliant, highly innovative, and exceptionally dedicated scholar.”

Riedel says she and Choksy meet often to discuss her ideas and review drafts of the thesis. “I was lucky,” she says, “Choksy was and is a supportive adviser.” Choksy also feels he was lucky to be a part of Riedel’s dissertation, and he says he is always pleased to be a graduate adviser. “It is enormously beneficial for me,” he says. “The wonderful thing about doctoral students like Dagmar who are self motivated is that they bring new ideas, new methods, new approaches, and I learn a great deal from supervising them.”

Choksy says he thinks the College of Arts and Sciences consistently produces high-caliber graduate work. “We have an excellent group of doctoral students across the department,” he says. “We tend to get a very fine crop. There are always financial constraints we have to deal with, but we usually overcome that and do very well. The College of Arts and Sciences at the doctoral level is excellent.”
Peg Stice spent 11 years as executive director of United Way of Monroe County. She learned about the not-for-profit world’s priorities and struggles by doing. Now she is passing on her knowledge to students through an Indiana University introduction to resource development class focused on fund raising. They, too, learn by doing, and get college credit for their experience to boot by pursuing a leadership, ethics, and social action minor in the College of Arts and Sciences. Introduced in the fall of 2002, it is attracting dozens of students interested in the idea of putting together learning and service to the community.

The new minor combines existing courses in ethics and social organizations. New elements — an introductory course, a social-action seminar, and a project focused on community service — complete the minor’s requirements. Courses are offered in several university departments, creating a challenge in coordinating budgets and schedules as course offerings are planned. But so far, the challenge has been worth the effort.

“The minor is going wonderfully well,” reports JoAnn Campbell, LESA director. “With little more than word of mouth, we have more than 50 students enrolled. Students get a more coherent understanding of the relevance, the potential, and the possibilities in their major if they’re able to work on a community-based project that draws on what they’ve learned over the four years here.”

She recalls an Advocate for Community Engagement student who focused on service learning while at IU, before the LESA minor was offered. “She said that while many students seemed to leave IU with bags of pieces of material, she was leaving IU with a quilt,” Campbell says. “It was her community service that allowed her to stitch the pieces together.” Campbell and IU psychology professor Linda Smith talked for a year about a systematic program incorporating community service and classroom learning before forming an 18-member task force comprising faculty, advisers,
connect their very real developing abilities in knowledge creation and evaluation as a means for helping students understand needs at not-for-profit social service agencies. "I became interested in service learning as a means for helping students understand the value of serving those in need, the result was a realization of the notion that learning could be well enhanced with hands-on, in-the-trenches experience.

LESA student Renee Tetrick, an IU American humanics certificate candidate and a student in Stice’s class, is a sophomore who’s almost finished with the LESA requirements. She’s completing her final course this semester and will focus on her capstone project during the spring semester. The capstone project allows a student to pull together classroom learning and the needs of a not-for-profit community organization. The student develops a project to meet a stated agency need and uses classroom knowledge to implement the service project. So far, two students have completed capstone projects. One helped create an after-school leadership program at Bloomington’s Banneker Center, a community gathering place on the west side of town that focuses on youth activities. Another designed a packet of information on community connections for patients at Hospitality House, a Bloomington nursing home.

Tetrick called the LESA minor “a great way to pursue my passion for people and helping others.” She says it helped her integrate her interests and better plan for her future working in the nonprofit sector, with hopes of improving the lives of people who struggle. “Service learning is a great way to learn more about yourself, your passions, and your strengths, while helping others and while learning about the community in which you live,” Tetrick says. “The courses required for the LESA minor teach about one’s role in society and how to make a greater change in the world. It doesn’t take much to help others, only what we already possess.”

Stice studied the not-for-profit world from within, taking classes along the way and obtaining a nonprofit management certificate during her time at United Way. “It really was mostly learning by doing in my case, and I think one of the good things about the university is they do bring in people who have had that kind of experience,” she says. “I think that is really key, bringing in community practitioners, because they bring something fresh and real to the table, and the students appreciate that.”

Smith says the LESA minor has attracted students from several disciplines. She calls them “bright, organized, serious, and energetic.” Stice agrees and says the students she has encountered are excited by the opportunities the minor brings. “What the students say to me is that they don’t often have a chance to pull in current events and the ethics of what is happening and that they love the practicality and relevance of it all,” Stice says. “They love to talk about things and to see the community action and figure out how they can take what they are learning and apply that to their very community.” She says that when she started out working in the not-for-profit world, agencies were mostly run by well-intentioned people who often worked as volunteers. But with a proliferation of such agencies — Stice says there are 1.6 million not-for-profits nationwide — more employment opportunities exist for students with a desire to work in a field that serves others. “They come into it already passionate about a cause, but they need the skills to go along with it,” she says.

Campbell recently reached out to community-based organizations, asking them to identify ways students could assist them. She asked them to “dream big” and to think of things they have always wanted to do but didn’t have time, money, or staff to accomplish.

“Immediately, I got a half-dozen responses. Having a talented IU student work on this will not only meet a genuine community need and leave a lasting legacy of that student’s work,” she says, “but it also will allow students to apply what they’ve learned in creative ways that will enable them to be surprised, perhaps, by their own capabilities.”

The committee members thought it made sense to bring together what students learn from instructors and what they could soak up from meeting real-life needs at not-for-profit social service agencies. “I became interested in service learning as a means for helping students connect their very real developing abilities in knowledge creation and evaluation to very real world problems,” Smith explains. Smith believes that a liberal arts education best prepares students to become citizens of the world as they come to understand how knowledge is created, evaluated, revised, and integrated. “I honestly believe that this kind of training is essential to developing inventive thinkers and doers who can change the world,” she says. When she combined that belief with an understanding of the value of serving those in need, the result was a realization of the notion that learning could be well enhanced with hands-on, in-the-trenches experience.

professional staff, and members of the community. The group that designed the major included faculty in sociology, political science, religious studies, English, and psychology. “This was a very fun committee, one of the best things I did as associate dean for undergraduate studies,” Smith says.

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On Ralph Felder’s first day at Indiana University, he walked into class and found himself one of a handful of men in a lecture hall filled with coeds. “I thought it was a mistake,” he says. Felder dashed outside and checked the classroom number, Room 119 at Ballantine Hall. No mistake. Sociology, he discovered, was a required course for nursing students. “I thought, ‘I’ve died and gone to heaven,’” he recalls with a smile. “I knew it was the place for me.”

That was 1967, and Felder was just beginning what he says was an enriching four-year college experience that laid the foundation for a career in medicine and today a new vocation as “Dr. Chef,” the creator of a line of low-fat creamy sauces that epitomize his interest in healthy cooking. His day job is still as an internist and doctor of nuclear medicine who specializes in performing and reading MRIs. He practices in suburban Phoenix, Ariz.

Felder, 55, was born on the East Coast but grew up in the Midwest, first in Wisconsin and then St. Louis. When he graduated from high school, he considered the University of Missouri before touring the Indiana campus. He found Bloomington offered him everything he wanted. “I wanted to major in the sciences, and they had a good math department,” he says. “They had a good honors program. I was in honors physics and math.” He was also awed by the school’s woody setting, which he calls “an enclave in the forest.” “There’s a beauty to this campus that’s quite unique,” he says.

His one regret during his four years at IU was that he was maybe too much of a bookworm. “I studied awfully hard,” says Felder, son of German Jewish immigrants who escaped Europe just before World War II. “In retrospect, I wish I had had a little more fun. I could have had a few more Bs and it wouldn’t have hurt.”

Felder shares one memory that involves no books at all. As a student, he loved eating stromboli sandwiches at Café Pizzaria on the corner of Kirkwood and Grant, remembering he could polish off a whole sandwich with no ill effects. In 1988, he and his father returned to the campus for a visit and took in a meal at the restaurant, which last year celebrated its 50th anniversary in Bloomington. The stromboli Felder ordered took him down memory lane, but this time the Italian sandwich sat at the bottom of his stomach for two days. “I realized the difference between being 19 and being 40,” he jokes.

One of Felder’s most memorable teachers was his first math instructor, Morton Lowengrub, who went on to become dean of the IU College of Arts and Sciences. Lowengrub challenged his students, Felder says, by giving true-false tests that required meticulous proof of each answer. Lowengrub is now vice president for academic
affairs at Yeshiva University in New York City. “Dr. Lowengrub was a terrific teacher,” Felder says.

Felder’s college years coincided with the height of the Vietnam War protests that marked university campuses across the country and reached their tragic peak with the May 4, 1970, shootings of four students at Kent State University. IU was relatively unscathed by protests, he recalls, but in the summer after the shootings, Felder enrolled in a math program at the University of Wisconsin, one of the hotbeds of radicalism. For Felder, that summer was his one indulgence in play. While being aware that violence could erupt at any time in a still highly charged atmosphere, he remembers he didn’t study much. He had a girlfriend among the locals, a girl whose father kept a boat on Lake Michigan. “I ate brats, drank, and played pinball,” he says with a laugh.

At the end of that idyllic summer, Felder returned to Bloomington and began hitting the books again. In addition to class work, he took a position as a teaching assistant in honors calculus, a discipline that he believes prepared him for graduate school and medical school. Working hard paid off. Upon graduating in 1971, he was awarded a National Science Foundation Graduate Fellowship, along with three other Honors College classmates, and a Woodrow Wilson Fellowship for graduate study. After Indiana, he used those fellowships to attend Stanford University, where he earned his medical degree and did his residency, and also earned a PhD in neuroscience. He then studied nuclear medicine at Harvard University Medical School. In 1986, weary of the harsh winters in Cambridge, Mass., he moved to Mesa, Ariz., where he was offered a position at Desert Samaritan Hospital in the MRI program. The program was then in its infancy and had few experts like Felder.

Felder’s culinary career finds its roots in a part-time job he had as a busboy in a Chinese restaurant while he was a student at Stanford. At the restaurant, located in Palo Alto, Calif., he learned to cook and to shop for ingredients under the tutelage of the shop’s Asian owner. After hours, Felder would use his coworkers as guinea pigs for his recipes. He learned that the Chinese diet is one of the healthiest in the world, and that in many parts of China the incidence of heart disease is remarkably low. At the same time, he became aware of the growing obesity problem in the United States.

When Felder moved to Arizona, he decided to sharpen his cooking skills by availing himself of more formal training than one restaurant owner could offer. He enrolled in the culinary program at the Art Institute of Phoenix, where he was allowed to attend the school part time to accommodate his medical practice. One area that interested him most was the realm of sauces — rich, creamy sauces everyone loves but is wary of for their fat content. Fat makes sauces smooth and contributes to “mouth feel,” that velvety sensation on the tongue. “I had this dream,” Felder says, “that if you could make sauces low in calories and low in fat and have the same mouth feel, and make them easy to use, you’d have the holy grail of healthy cooking.”

“Today, Dr. Chef is half doctor and half chef. Felder would like to tip the balance more toward the chef side, with widespread marketing of his sauces and perhaps his own television show promoting healthy eating. He also has his eye on a teaching career, to educate America about abandoning those diets that are leading to an epidemic of obesity and Type II diabetes. At heart, the chef is a still a scientist. Compared with medicine, he says, “I can reach so many more people by doing what I’m doing.”

Felder hasn’t forgotten where he got his start in science. “The university did an enormous amount for me,” he says. “I’m very indebted. I had a good experience there. It gave me a lot of opportunities.”

More information about Felder’s Dr. Chef sauce line is available at his web site, www.drchef.com.

Barbara Tost is a business reporter for the Arizona Republic in Phoenix.
What do a Nobel Prize-winning biophysicist, an ambassador to Russia, a curator of a world-renowned museum, an internationally acclaimed novelist, and a biologist mapping out mutated genes in an effort to cure cancer have in common? It should come as no surprise that all began their careers with graduate degrees from Indiana University.

James Dewey Watson received a PhD in zoology from Indiana University in 1950. From 1951 to 1953 he did postgraduate research with British biophysicist Francis Crick at the Cavendish Laboratory, University of Cambridge. Based on work done at the laboratory of British biophysicist Maurice Wilkins, Watson and Crick worked out the double helix structure of the deoxyribonucleic acid molecule. For their work on the DNA molecule, Watson, Crick, and Wilkins shared the 1962 Nobel Prize in medicine. In 1968 Watson became director of the Cold Springs Harbor Laboratory of Quantitative Biology, in New York state. From 1988 to 1992, at the National Institutes of Health, Watson helped direct the Human Genome Project, an ambitious project with the goal of mapping the entire sequence of human DNA.

Julien Chapuis received his PhD in art history from Indiana University in 1996 with a dissertation on 15th-century Cologne painter Stefan Lochner. He joined the staff of the Metropolitan Museum of Art in April 1997, where he is now associate curator at the Cloisters, the museum’s branch for medieval art located in Fort Tryon Park in northern Manhattan. Opened in 1938, the Cloisters has a rich collection of architectural fragments, including remnants of five French cloisters, as well as tapestries, stained glass, sculpture, metalwork, and illuminated manuscripts. Chapuis curated an exhibition titled “Tilman Riemenschneider, Master Sculptor of the Late Middle Ages,” which was held at the National Gallery of Art, Washington, and at the Met in 1999-2000. The book based on his dissertation will come out in 2004.

Mandy Sayer was born in Sydney, Australia, in 1963. She received her MA in English/creative writing in 1994 from IU. Her first novel, Mood Indigo, was awarded the 1989 Australian/Vogel Award. She wrote Blind Luck and then The Cross in 1995. The Cross was shortlisted for the Kibble Award, the Ned Kelly Award for Best First Crime Novel, and the 3M Talking Book of the Year Award and was nominated for the 1997 International IMPAC Dublin Literary Award. Sayer’s latest work, Dreamtime Alice, a memoir of her years in the United States, has been given a starred mention by New York Publisher’s Weekly and is being made into a feature film starring Cate Blanchett and Geoffrey Rush.

Nancy A. Jenkins is a leading researcher in mouse genetics and cancer biology. She received her PhD in molecular and cellular biology in 1977 from IU. After carrying out postdoctoral research at the Dana-Farber Cancer Center and Harvard Medical School, she became an associate staff scientist at the Jackson Laboratory and an associate professor of microbiology and molecular genetics at the University of Cincinnati College of Medicine. In 1985, Jenkins joined the National Cancer Institute’s Frederick Cancer Research Development Center basic research program as head of the molecular genetics of development section, which was part of the mammalian genetics laboratory. She is now head of the molecular genetics of development section within the mouse cancer genetics program. Jenkins and her husband, Neil Copeland, oversee the mouse genetics program and have published more than 600 research papers together. Jenkins became editor in chief of the journal Genomics in 1997.

James Franklin Collins, a career diplomat with extensive experience in Russian affairs, served from 1997 to 2001 as the U.S. ambassador to the Russian Federation. He enjoyed a broad and distinguished State Department career and is considered one of America’s leading authorities on Russia and Eurasia and on U.S. relations with Russia and that region. Before joining the State Department, Ambassador Collins taught Russian and European history, government, and economics at the U.S. Naval Academy. He received his MA in 1965 from Indiana University. He conducted research at Moscow University in 1965 as an exchange fellow and at the British Museum in London in 1966 as an Indiana University fellow. In 1999, he was awarded the honorary degree doctor of laws from Indiana University.

by Elizabeth England
Rieseberg named MacArthur Fellow

The John D. and Catherine T. MacArthur Foundation has named Loren Rieseberg, Class of ’54 Professor of Biology at Indiana University Bloomington, one of this year’s 24 MacArthur Fellows. The unrestricted, five-year, $500,000 award and title are given to individuals deemed to have made “exceptionally creative contributions to their respective fields,” according to a statement by the foundation. The fellowships, sometimes referred to as the MacArthur “Genius” Awards, are given yearly to about 25 recipients selected from a pool of hundreds of nominations. Articles published by Rieseberg in Science, which provided evidence that cross-species mating is likely to have been important in the evolution of new species, were singled out by the MacArthur Fellowship selection committee as being among the scientist’s outstanding successes. Rieseberg is the fifth IU professor to receive the fellowship.

Grants abound around the College

Several scientists in the IU biology and computer science departments have recently earned substantial grants for novel research efforts in their fields.

In the biology department, Professor Roger Innes leads a team receiving a three-year, $2.6 million grant from the National Science Foundation. The project will sequence a large segment of DNA shared by soybeans and their wild relatives in order to identify genes for disease resistance. Improving the disease and pest resistance of soybeans, which are second only to corn in number of acres planted in the United States, could reduce the need for pesticide use.

Together with faculty in the biology department, the Center for Genomics and Bioinformatics has received a $2.7 million award from the National Institutes of Health to establish the Drosophila Genomics Resource Center at IUB. Drosophila, better known as ordinary household fruit flies, are integral to the study of genetics because of their relatively simple genetic code and rapid maturation. The new center will develop, archive, and distribute Drosophila genomics resources to researchers nationally and internationally.

Finally, the IUB computer science department has seen four large awards recently. Andrew Lumsdaine will lead a $650,000, three-year NSF Middleware Initiative project to develop “middleware” that protects a scientist’s computer data even when the underlying hardware fails. Dennis Gannon and Beth Plale will use their $1.5 million portion of a larger, three-year Information Technology Research grant to develop a new weather-modeling computer system that takes advantage of improvements in high-speed networking and computer power. Gannon and Plale have also teamed with Pervasive Technology Labs to secure $870,000 of a larger, three-year NMI grant to develop a software system that makes it easier for people to participate in grid computing projects, where many computers in different locations are networked together to cooperate on a single problem. Also tackling grids are IUB computer scientists Donald F. McMullen, Randall Bramley, and Kenneth Chiu and IUB chemist John C. Huffman. They will use a $1.5 million, three-year NMI grant to develop a software interface that helps make available large scientific instruments to biomedical researchers across the globe through a grid computing environment.

Palmer-Brandon Prize winners announced

The College has awarded the 2003 Palmer-Brandon Prize to seniors Shawna Ayoub of Carmel, Ind., and Tiffani Jones of New Castle, Ind. Ayoub and Jones will receive $20,000 each to further their education.

“The College is extremely proud to be able to recognize truly outstanding undergraduates in this way,” said Dean Kumle R. Subbaswamy. “I’m sure Ms. Ayoub and Ms. Jones will do us proud in the coming years.”

Ayoub plans to graduate in May 2004 with a double major in anthropology and Near Eastern languages and cultures. Jones also aims to graduate in May, with a double major in religious studies and English, and possibly a third degree in psychology. Both will put their prize money directly toward tuition costs.

The Palmer-Brandon Prize is given annually to outstanding full-time students who are majoring in the humanities. It is named for the late Ralph Graham Palmer and the late Barbara Brandon Palmer of Washington, Ind., and was made possible by a gift to the College of Arts and Sciences in the 1980s.

The prize is based solely on merit, with applicants submitting a personal statement outlining their career goals. Upon graduation, winners must submit a report of how the prize aided their education.

Jumping genes

It goes without saying that individuals, whether they be humans, bugs, or plants, receive genetic information straight from their parents, in what scientists call vertical gene transfer. In July, however, a study led by IU biologist and Class of 1955 Endowed Professor Jeffrey Palmer added a caveat to this rule. The article, appearing in the journal Nature, unveiled findings suggesting that horizontal gene transfer, when DNA jumps from one species to another, may happen more often than previously thought.

After encountering unexpected gene sequences in the mitochondria of several flowering plant species, Palmer and his team sought to determine the source of the anomalous genetic material. They found that these parts of the plants’ genetic code appeared far more similar to unrelated species than to species closely related to them strongly suggesting acquisition of the genes through horizontal transfer.

“While our data set was small and real rates of horizontal gene transfer were therefore hard to predict, we can infer that even conservatively, horizontal gene transfer must have happened in flowering plants thousands of times,” explains Palmer. He also notes that this finding likely extends to other members of the massive eukaryote family, which includes humans, trees, and mushrooms. Not to worry, though; even given these new findings, the process is still considered rare.
Graduate students represent one of the strongest assets of any higher education research institution. Although we value their contributions in research and teaching, we often don’t recognize them adequately for their hard work and dedication. In the College, that situation is about to change.

The foremost reason that a graduate student comes to the College of Arts and Sciences is to fulfill a dream to reach the pinnacle of education in their chosen field. Receiving a PhD represents an enormous achievement that only results after six years or so of intense academic labor and personal sacrifice. After their degree is achieved, the vast majority of these students do not enter high-paying fields, but become faculty members at colleges and universities across the country.

Donald Kennedy, former president of Stanford University, described the graduate-student experience like this:

“It requires total immersion in a demanding scholarly discipline with varying degrees of help and guidance, and the chances of failure are dauntingly high. Nationally, only about one-quarter of the students who embark on the PhD actually finish one.”

“... the pool of outstanding graduate students is atrophying across the country. This shortage places the College in a precarious position. To excel as an institution, the College must find ways to recruit and keep these students ...”

Given the sacrifices, hard work, and odds against success, it’s clear that these special individuals are pursuing heartfelt aspirations to become scholars, scientists, and professionals who advance knowledge through their research and creative endeavors.

They are also critical to the operation of the College, where we have been educating outstanding graduate students for more than a century. These students are vital contributors to our teaching and research missions. They are constantly at work in our seminar rooms, laboratories, and libraries to partner with faculty on research, instruct undergraduates, and further their own knowledge. Simply put, the College wouldn’t have as many of its departments ranked in the top 20 nationally without their hard work and dedication.

In the face of long odds and intense competition, the pool of outstanding graduate students is atrophying across the country. This shortage places the College in a precarious position. To excel as an institution, the College must find ways to recruit and keep these students, and, unfortunately, we are falling behind our Big Ten competitors in that regard. Sought-after graduate-student candidates are able to choose between financial packages — referred to as fellowships — from several institutions. Currently, the College is not competitive in its recruitment and is in danger of losing ground. (Lest the reader gets the wrong idea, the most lucrative packages being offered are still at near-poverty-level stipends of $20,000 per year. Often these students are forced to work part-time jobs to make ends meet and are already saddled with student debt from their undergraduate education).

Graduate students need and deserve our support. Their rigorous efforts to advance knowledge and fulfill their individual dreams are worthy of our attention and resources. Over the next few years my office will focus on telling their stories and seeking private resources for their support. I hope you will take the time to listen.

As always, thank you for your ongoing support to your College of Arts and Sciences.

— Tom Herbert
S P O T L I G H T  O N  T H E  D E P A R T M E N T  O F

B i o l o g y

Faculty: 53
Undergraduate Students: 1,100
Graduate Students: 174

Study Options:

- BA and BS in biology.
- BA and BS in microbiology.

MS in molecular biology and genetics (MBG), emphasizes molecular and genetic approaches to problems in cell biology, developmental biology, genetics, microbiology, molecular biology and plant sciences.

MS in evolution, ecology and behavior (EEB), emphasizes training in areas of ecology, population biology and evolutionary biology.

- Minor or area certificate offered in animal behavior.
- Ph. in biochemistry, offered through the Interdepartmental Biochemistry Program.
- Master of arts for teachers of biology.

Commitment to Excellence:

Indiana University began the Commitment to Excellence program in the 2003-2004 academic year to “enhance academic excellence.” Two of the seven projects chosen for development by Chancellor Sharon Brehm include biology. The first of the two programs, Comprehensive Human Biology Program, will require the addition of 21 faculty members to the biology department. “These faculty members will have expertise in vertebrate systems, pathogen microbiology and biochemistry, brain imaging, molecular neuroscience, vision science, and biotechnological law. New undergraduate degrees would be established in human biology and biotechnology, a new master’s degree in biotechnology and two professional degree paths spanning biomedical and biotechnological sectors.” The second of the two programs, Patient-based Research in Ocular Disease and Systematic Diseases Affecting the Eye, will team the School of Optometry and the College of Arts and Sciences. The program will require the addition of two new faculty members for the School of Optometry, who would build a patient-based disease research program. Optometry would coordinate with the College to make a minor that focuses on the eye and its diseases in human biology.

Biology Alumni & Faculty who Have Made a Difference:

- Renato Bulbecco, Ph.D. (Post-doctorate fellow ’47–’49 in bacteriology) — received the 1975 Nobel Prize, with David Baltimore and Howard Martin Temin for their discoveries concerning the interaction between tumor viruses and the genetic material of the cell.
- Samuel F. LaBudde (BA’86 in biology) — received the Goldman Environmental Prize in 1991 for his 1988 work as an “eco-spy” filming dolphin slaughter on tuna boats which led to the 1988 tuna boycott.
- Hermann J. Muller — While a professor in the biology department, Professor Muller earned the Nobel Prize in 1946 for the discovery of the production of mutations by means of X-ray irradiation. He was also a member of the National Academy of Sciences as well as the American Academy of Arts and Sciences.
- James Dewey Watson (PhD’50 in zoology) — won the Nobel Prize in 1962 for his pioneering work revealing the structure of DNA.