

# ALUMNI NEWSLETTER

Fall 2006

## DEPARTMENTAL NEWS

Since last year's alumni newsletter, the department and The University of Toledo have gone through significant changes. This past October, the department shortened its name from "Earth, Ecological and Environmental Sciences" to "Environmental Sciences." Although the new name does not reflect the full spectrum of research and course work in the department, the old name was deemed too long, awkward, and difficult to say and remember. For example, some of the top administrators in the University had trouble remembering our name and that worried us. Thus, for reasons of simplicity and marketing efficiency, we changed the name.

Another big change in the department was the addition of four new faculty members this fall. This gives us a total of 21 full-time faculty members, nine in geology and 15 in ecology. The new assistant professors and their areas of teaching and research expertise are as follows: Dr. Thomas Bridgeman (aquatic ecology, plankton and Great Lakes limnology), Dr. Ann Krause (aquatic ecology and systems ecology), Stacy Philpott (insect community ecology and linkages between agroecology and conservation), and Michael Weintraub (soil and ecosystem ecology and biogeochemistry). More information about these faculty members is included in this newsletter.

We are sorry to report that Stephany Mikols, our departmental secretary since 1994, left us for a position on the staff of

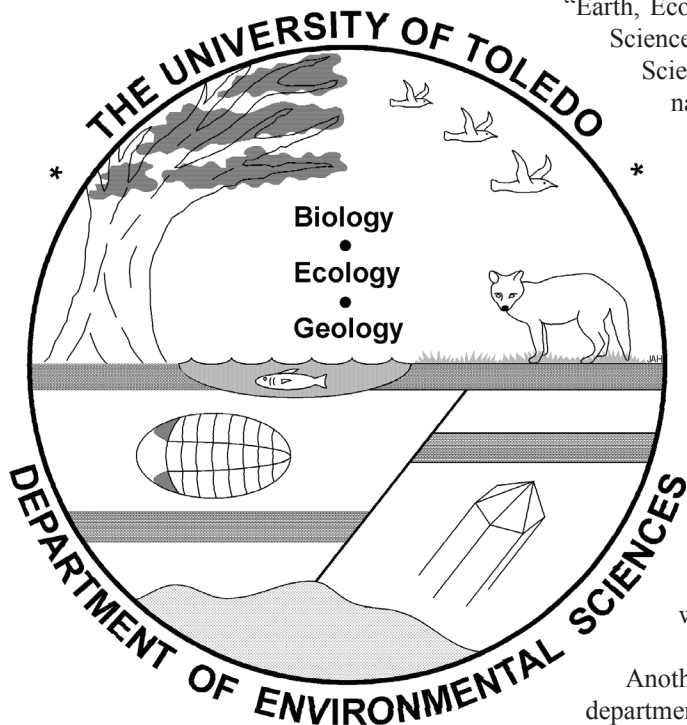
UT Department of Physics and Astronomy. Her replacement is Diane Brown, former secretary for the Department of Psychology.

One of the long-time adjunct professors in the old Geology Department, Margaret Kitchen, died Jan. 22, 2006, at the age of 83 (her obituary is in this newsletter). Also, sadly, we lost one of our students last June. Kyle Hunlock was a senior in our environmental sciences BS program. Hunlock died in an industrial accident while working for Hazcorp Environmental Services in Toledo as part of the required internship for his degree. At the request of the department, UT has granted Hunlock his BS degree posthumously.

During the past year, the administrative structure of the 47-acre Stranahan Arboretum was changed so that the arboretum is now like a part of the department. Daryl Moorhead is the new director, and the department is rapidly expanding its use of this facility for teaching and research.

Effective July 1, 2006, the Medical University of Ohio (located on the south side of Toledo) and The University of Toledo merged into a single institution, with the new entity keeping the UT name. So now there are the Main, Scott Park and Health Science campuses. The merger has made UT the third largest public university in Ohio in terms of its operating budget and has increased the total enrollment to about 21,000 students. It is expected — and this was the main motivation behind the merger — that the new institution will garner more prestige and attract more and better students and more and larger external research grants. The former president of the Medical University of Ohio, Dr. Lloyd Jacobs, is now the new president of UT. Jacobs is moving fast and decisively to

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make numerous changes in the University. Two of these will have large and positive impacts on our department. First, the College of Pharmacy will move out of Wolfe Hall, which adjoins Bowman-Oddy Laboratories, and will relocate to the Health Science Campus. Our department will be able to expand into and probably reside in Wolfe Hall. It will likely be two years before this happens, but it does seem definite at this point. Wolfe Hall is a beautiful, newer building and will be an improvement over our present space in Bowman-Oddy.

President Jacobs's second initiative is to focus the University's resources on building the science and technology programs with "environmental science" at the top of the list for future development. Our department, especially with its new name, is perfectly positioned to take advantage of this focus.

Jim Harrell & Mike Phillips

## ALUMNI NEWS

**Steve Badger (MS Geology '96)** reports that he is now the director of technical consulting services for R. J. Lee Group Inc. in Pittsburgh, Penn. After leaving UT, Badger obtained his Ph.D. in materials science from Pennsylvania State University.

**Julius Blanco (BS Geology '81, MS Geology '85)** writes, "The company I work for (Marathon Petroleum Company LLC) transferred me to Lima, Ohio, February 2006. My new job is the terminal supervisor for the Marathon Petroleum Company's Lima, Ohio Terminal. They thought I needed to learn more about the company's bulk petroleum storage terminals and transport operations after five years of being in environmental compliance in the Indianapolis area. This job also is a supervisory position, so it is quite a departure from what I have been doing. For the last 19 years, I have been working in the environmental field (planning, remediation and compliance). My daughter Carolyn is almost 16 and will be a junior in high school for the fall of 2006. She is already visiting colleges. We visited Michigan State and Toledo for orientations in July

2006. While at Toledo, we stopped by the department and had a chance to chat with Dr. Camp and Dr. Phillips. We also peeked in at reading room (still looks the same and brought back memories). Dr. Camp offered a seat in the van for a National Parks fieldtrip out west in August 2006 and it was very tempting. Finally, while in Indianapolis, I had a chance to get together with **Alan Resnik (MS Geology '84)** and his family a few times. In fact, our kids have become friends. Alan works and lives in Columbus, Ind. I also had a chance to have dinner and drinks with **Stu Cravens (MS Geology '85)** last January while visiting Champaign, Ill. We determined it has been 22 years since we last saw each other. It's great to renew friendships from UT geology. If in the Lima area, please let me know (419.889.3879)."

**Tim Connors (BS Geology '91, MS Geology '96)** writes, "I cannot believe it, but it will be 10 whole years (Aug. 6, 1996) since I defended my MS thesis. I'm still celebrating that occasion daily. Things are going well here in Denver, Colo. I've been working for the National Park Service since 1997 in the Geologic Resources Division as a real-live geologist. I'm responsible for getting a digital GIS-based geologic map



*Wolfe Hall on Main Campus of The University of Toledo and future home of the Department of Environmental Sciences*



for all NPS areas. We use ESRI software to produce these, and it is quite challenging and fun. I love to tell people, “Where you go for vacation, I go for work.” I love saying that (and living it!). Work has taken me to such lovely places as Hawaii Volcanoes NP, Kenai Fjords NP (Alaska), and Virgin Islands NP. It’s a tough job, but somebody has to do it. In my spare time, I’m active at a place called Dinosaur Ridge in Morrison, Colo. It’s essentially the type section for the Morrison Formation (as Mark Camp would say, “the dinosaur bone yard”) and contains numerous dinosaur fossils (vertebrate and trace). I’m on a personal crusade to raise awareness about the degrading geologic resources and to get funding for a building that will protect the world-famous dinosaur tracks present at the site from the ever-powerful erosive forces of nature. Hopefully good things will come of it. I always enjoy hearing from fellow alumni and professors. If you’re in the Denver area, look me up. I’m happy to give tours of the local geology to anyone interested. I can be reached at [tim\\_connors@nps.gov](mailto:tim_connors@nps.gov) or 303.969.2093.”

**Cathy Coon (MS Geology ‘80)** writes “I was recently informed by a fellow UT Geology Department alumnus that I was listed as ‘lost’ in his recent issue of alumni news. I am writing to correct that report and give details of where I may be found. I am working at Chevron in Houston, as part of the Gulf of Mexico Deepwater Group. Having started out in Houston 25 years ago, I have now come full circle back to Houston. I moved from Cities Service in Houston to Sun Oil in Dallas and then London. From Sun, I moved to CanOxy (now Nexen) and then to PanCanadian (now Encana) in Calgary. In 2000, I finally made it to Denver, where I had always wanted to live and work. After four wonderful years there, my and my husband’s jobs were transferred, and we’re back in Houston. All these previous positions were in international exploration and covered a wide area, including South America, North and West Africa, China, Malaysia, and the North Sea. My current position at Chevron gives me my first domestic experience and the excitement of working on some very

interesting deepwater projects, providing pore pressure and shallow hazard evaluations for exploration and production areas. It’s been a long and interesting path that started long ago in Toledo, Ohio.”

**Tim Eckstein, MD (BS Geology ‘74)** recently retired from the U. S. Navy after being recalled to active duty in 2004 for Operation Iraqi Freedom. He has now returned to his former occupational medicine practice in Bay City, Mich., where he is the medical director of Bay Occupational Services.

**John Ezerskis (UT MS Geology ‘89)** writes, “I have been making a living as a professional geologist now for 17 years. The first 11 years were in the environmental field, and the last six years were with Ohio Drilling Co., based in Massillon, Ohio. My principal duties are as a project manager/sales engineer in the completion of large volume water wells for industry and municipalities, well rehabilitation, and motor/turbine pump service. The core of my clientele is along the Ohio River, from near Pittsburgh, Penn., south on both banks to Gallipolis, Ohio. During the course of the projects, I’ve conferred with two of my classmates, **Pat Heider (BS Geology ‘84, MS Geology 91)** and **George Stuckey (MS Geology ‘88)** of the Ohio EPA-Bowling Green. However, this year I’ve ventured away from the Ohio River into eastern West Virginia. I’ve completed a water resource investigation near Seneca Rocks in Pendleton County, W.V., where my interest in the Appalachians was first kindled as an undergrad. I am completing a water well project for the town of Wardensville in Hardy County, W.V., north of my MS thesis mapping area in the Lost River/Lost City area. Dr. Stuart Dean was my adviser and mentor, and the Wardensville project brings back fond memories of the fieldwork and his tutelage. My wife, Brigitte, and I have now been married 25 years and reside in the Village of Bratenahl, which is surrounded by Cleveland on three sides with Lake Erie to the north.”

**Raymond Heitger (BS Geology ‘91)** reports that he recently received his MS

degree in geology from the University of New Orleans. [Editor’s note: Ray (“Duke”) is a well-known professional trumpet player, so it seems he sort of has the avocation/occupation relationship reversed.]

**Michael Homsher (PhD Biology/Ecology ‘00)**, according to the UT alumni magazine, is an associate professor of environmental safety and health management at the University of Findlay, and was recently honored for excellence by being named the first honorary faculty chair in the College of Sciences.

**Gary Kaminsky (BA Geology ‘77)** writes, “I play chess with the Coffeehouse Chess League of Northwest Ohio. Locally in the Toledo metro area, we meet and play chess on Thursday afternoons from 1 to 4 pm at Southwyck Mall on Reynolds Road. I also can be found playing at the Internet Chess Club. As for my best game, I came very close to drawing or winning a game against Grand Master Boris Alterman of Israel who lives in New York City. FIDE gives him a Worldwide Ranking of 270th strongest player in the world, and he is ranked 16<sup>th</sup> strongest in the United States and 12<sup>th</sup> in Israel. I also participated in the Internet Chess Game with IGM and former World Chess Champion Garry Kasparov. Our team came close to a draw with Kasparov. Chess is my main hobby. I also have tutored a gifted child in Fostoria in mathematics, science, and computer languages, as well as in chess. My student placed in the Greater Toledo Area Mathematics Exam for his age group and placed high enough for state competition. And I briefly taught mathematics at the Owens Community College Toledo Campus — algebra, trigonometry and pre-calculus — was a campus-wide mathematics tutor. I miss working in the geological sciences and the Rocky Mountains where I began after graduating from UT. I returned to Ohio in 1978 and worked for the past 20 years running and maintaining mainframe computer platforms for First National Bank of Findlay, Fifth Third Bank of Northwest Ohio, Society for Worldwide Interbank Telecommunications (SWIFT),



LCI Worldwide Telecommunications (now Qwest) of Denver, Colo., and Electronic Data Systems (EDS) of Plano, Texas. EDS downsized, and I lost my position working on the General Motors Account in Michigan. I returned to Ohio and taught math part-time at Owens for one semester. I find myself working-retired — working at Wal-Mart here in Findlay for the third shift. I still enjoy the sciences and related subjects I studied while in college. I stay current by going to the NASA/JPL, USGS and the NOAA/NWS Web sites. Dr. Craig Hatfield was my favorite professor while in college during the 1970s, and I was among others who voted for him for the Outstanding Teacher Award. All I know is Dr. Hatfield sure could teach geology!”

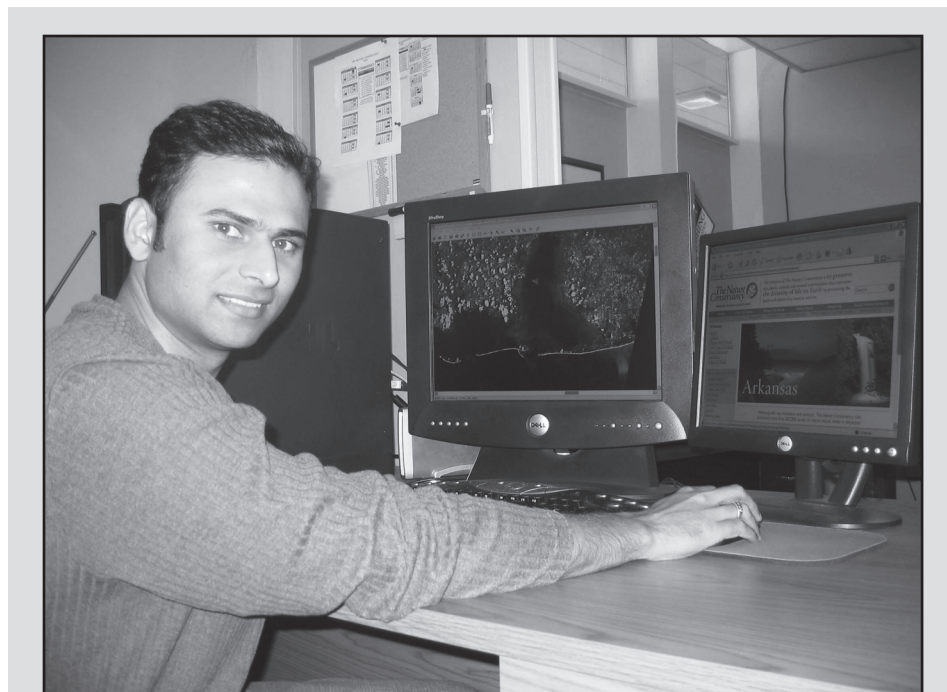
**Renee Klinger-McLaughlin (MS Geology ‘84)** writes, “As always, I enjoy receiving the Alumni Newsletter and hearing about what is occurring with the department and updates on old classmates and the faculty. Life is very good for me in Dallas. I have been here since moving from Toledo in November 1984. As you may know, I have worked at CDX Gas LLC for almost five years. CDX Gas is a gas drilling and exploration company formed in 1991 that uses a patented horizontal drilling technology that can tap low-permeability coal and shale gas reservoirs. My position is manager of geological technical Support and analytical testing. We now have more than 400 employees — there were about 25 people when I stated in 2001. I am responsible for all aspects of coal bed methane resource determinations and organic geochemistry as it relates to coals and shales. I truly have a wonderful position and have been very blessed. On a personal note, I have been married for more than five years to Ken, and we are very happy together. FYI — I saw **Jeff McLaughlin (MS Geology’ 84)** is still on the ‘missing’ list. He lives in Sylvania, Ohio with his wife, Carla, and their two children.”

**Dale McLane (BS Geology ‘80)** writes, “I am still at the Ohio EPA, working in the Division of Drinking and Groundwater. Significant projects during the past 12

years include a research study on the Ohio Shale in Erie County, which demonstrated that naturally occurring BTEX in the shale can release benzene to ground water in monitor wells for a period of time after well installation. This has regulatory implications as the benzene levels were above drinking water standards. I was the principal author of a report equivalent to an MS thesis on this subject. Two other ongoing projects include monitoring well installation and investigatory work at sites where chlorinated solvents have impacted a municipal water supply and/or residential wells. Sometimes I get to core and log bedrock — the closest thing we get to real geology — but I also am using my interests in chemistry and related work experience with this job. I’m learning Arc-View and beginning to specialize in mapping work. I still like to rebuild classic Chevrolets from the 1950s and 1960s. My latest projects are a 1955 pick-up, and a 1966 Impala. Work continues on moving and building at my home and property near Alamogordo, N.M. I’m planning on retiring there, but there will be a transition period where I will spend the summer in Ohio, and the winter in New Mexico. I would like to hear from alumni Jim Kreutzfeld, Gary Maxwell,

Karen May, and Gary Krebs sometime.”

**Howard Miller (MS Geology ‘97)** writes, “Things here are going well. I spent the last 10 years working for various environmental consulting firms in Cincinnati doing projects throughout the United States (about 44 states to date). Project descriptions have varied widely, and they have gone well. With some of the utility deregulations a few years ago, I also was able to get into many true hydrogeology related projects. The DRASTIC thesis was a good lead-in to the professional world, considering the time period. Most of my geologist peers came out of school with significantly less environmental background. The mapping also really helped to evaluate dynamic problems. I’m sure you’ve received plenty of feedback from those of us who went the environmental consultant route for a career. For some reason, it worked out for me to an extent where it really hasn’t for most of my peers. From my perspective, it’s really a thankless, grind-it-out profession where you need to look deep within for successes and growth. Looking back, I wouldn’t recommend it to most students looking for jobs right out of school. About a year ago, I decided to start my own consulting firm



*Kaushik Mysorekar at work at the Nature Conservancy in Little Rock, AR.*



*Dave Wavrek (left) and Ron Tipton (right) on the ski slopes.*

after hitting a frustration plateau working for a large international firm. The objective was really to take my career in a direction that worked with my professional goals and vision. It's ended up being just an extension of where I am in life right now. It's helped to re-energize my technical interests and to do things that matter to me. So far, it's working out great."

**Cynthia (Christiansen) Newton (BA Geology '78)** writes, "I am still working as the assistant manager of construction services at Bowser-Morner in Toledo, Ohio. I am active in my local church helping with the Children's Ministry. My oldest daughter, Amy, graduated from college in May 2005 and is now a physical therapist assistant at a hospital in Canton, Ohio. She had a beautiful outdoor wedding at Maumee Bay State Park in August 2004. Her husband is still going to college and works in a chiropractor's office. My youngest daughter, Amanda, graduated from Saint Cloud State University in Minnesota in May 2006. She is an

accountant and plans to move to a warmer climate. She also will be getting married at the end of May 2006 in the Toledo area. I am glad that they both decided to get married in their hometown."

**Kaushik Mysorekar (MS Biology-Ecology '04)** writes, "I have been working for the world-renowned Nature Conservancy organization in Little Rock, Ark., since graduating. My experience in EEES was wonderful. The department offers multidisciplinary and applied courses in many areas of environmental sciences and ecology. Faculty members are outstanding and very encouraging. As a result, I was able to successfully secure employment in the field of my interest even before I graduated. The EEES Department is not only a wonderful place to study, but also a great place for social interaction."

**Casey Stephens (BS Geology '80, MS Geology '84)** writes, "I was appointed commissioner of the City of Toledo's Division of Environmental Services Jan.

3, 2006. The division — with a staff of 45 engineers, environmental scientists and environmental technicians, and others — oversees the air and water quality for the citizens of Toledo. The division is a Local Air Agency (contractual agent for the Ohio EPA); issues air pollution PTIs and PTOs; enforces pretreatment and storm-water regulations; assesses, remediates and redevelops brownfields; monitors local air and water quality; and operates a central laboratory for the city. On a personal note, my wife Rose is an ER nurse at Toledo Hospital. My son Mike, 20, is a private in the Army stationed at Ft. Hood, Texas. Daughter Sarah, 18, accepted a soccer scholarship to Niagara University, N.Y., and enrolled fall 2006. Maggie, 14, will be entering Sylvania Northview High School as a freshman."

**George Stuckey (MS Geology '88)** writes, "I'm still living in Wauseon, Ohio at the family's farm. We're still an operating farm (row crops) on the southern edge of Wauseon, but suburban sprawl is encroaching from all sides. My brother and I bought the old homestead and some surrounding acreage so the orchard and gardens are still intact. For those of you who were in graduate school from 1984 to 1988 and remember the apples I brought in, the apple trees are still producing. The 40-year-old yellow delicious trees are still making some of the best-tasting apples I've ever eaten. In the last six or seven years, I've cultivated blueberries and have had several bountiful crops. With respect to work, I'm working as a geologist III at the Ohio EPA in the northwest district office at Bowling Green. Work entails reviewing various regulatory document submissions and ground water analytical data. I'm the coordinator in the northwest office for our Ambient Ground Water Characterization program, which is developing a database for background ground water quality across the state. In other work, with our Division of Emergency and Remedial Response (DERR), I continue to sample and oversee the largest Air Sparging and Soil Vapor Extraction system in Ohio. We have seen a 70 percent reduction in trichloroethene concentrations in the plume down gradient



from the facility. **James King (MS Geology '77)** and his company, Avant Group, were the primary geologic consultants for this project. I also worked on another DERR investigation and remediation project with **Joyce Dunkin (MS Geology '81)** and **Tom Covrett (BS Geology '91)** in Fayette, Ohio. Remediation at this site hasn't been nearly as successful as the previously mentioned site. We may attempt in-situ chemical oxidation as a remedy for this site — the original pump and treat system hasn't contained the contaminant plume. Here are some additional "whereabouts" of missing alumni: **Andrew Ellison (MS Geology '88)** lives in Denver, Colo.; **Tom Covrett (BS Geology '91)** works for Mannix and Smith Inc. in Maumee, Ohio; and **Greg Brennan (MS Geology '94)** lives in Iowa City, Iowa."

**Dave Wavrek (MS Geology '85)**, president of Petroleum Systems International in Salt Lake City, Utah, writes, "I cross paths with **Jeff Quick (BS Geology '81, MS Geology '84)**. I'd hired him as faculty member at the University of South Carolina and the University of Utah, and now he's with Utah Geol Survey. I also see **Renee Klinger-McLaughlin (MS Geology '84)** from time to time. **Ron Tipton (MS Geology '86)** and I still "play" together — in fact he's due out here to ski next week (see picture from one of last year's ski trip)."

**Susan Whitaker (BS Geology '98)** reports that she is living in Noblesville, Ind., and works as a project geologist for a minority-owned engineering consulting firm based in Indianapolis.

## IN MEMORIAM

(adapted from an article in The Blade, Jan. 24, 2006, page B-4)

**M**argaret J. Kitchen, a local geologist and lawyer who ran a law firm with her husband and then her daughter, died Jan. 22, 2006 in Flower Hospital from complications after surgery. She was 83. Kitchen was described by her daughter, Margaret Ann "Marlo" Kitchen, as upbeat, friendly and intelligent with a good sense of humor. "She was very generous and loved animals," Marlo Kitchen said. "She was very outdoorsy. She loved to hike, backpack and ski, and she worked on oil rigs. I think her interest in geology came from her love of the outdoors."

She was born in Noblesville, Ind., and attended the University of Michigan to study astronomy. "She told me she couldn't handle the math, so she looked for something else," Marlo Kitchen said. "She absolutely loved geology. She loved the sense of time with it. She could look at a rock and tell you everything about it — where it was from, how it was formed, and its age." At UM, Kitchen received a bachelor's degree in 1944 and a master's degree in 1946 — both in geology. Her daughter said Kitchen was a top student and, even though she was one of a handful of women in the field at the time, never talked about feeling a need to prove herself. "She was pretty confident," Marlo Kitchen said. "She — not in an egotistical way — felt she was pretty special. She had a lot of confidence in her ability." She worked for the U.S. Geological Survey from 1944-45, was an assistant in the Department of Geology at Michigan from 1945-46 before joining the Sun Oil Co., where she worked until the late 1950s as a senior geologist. "She would go out and find oil deposits," Marlo Kitchen said. "They would go out and drill a well, which was very expensive,

in places where she thought there was oil. She would hit a dry well every now and then, but it was exciting for her when they actually hit oil."

Marlo Kitchen said her mother met and married her husband, John W. Kitchen, while studying law at The University of Toledo School of Law, where she received her degree in 1952. After leaving Sun Oil, the couple started the law firm Kitchen and Kitchen. Mr. Kitchen died in 1988. Eventually their daughter joined the law firm. "We were a mother-and-daughter law firm," Marlo Kitchen said. "She would tell me when we walked through those doors, we were partners and no longer mother and daughter. It was great working with her, and she had a wonderful wealth of experience." Marlo Kitchen said her mother enjoyed life and appreciated the outdoors and her dogs and cats around the home. "She would always tell me to stop and smell the flowers, and that every day was a fresh chance. She was passionate about the things she was interested in. In law, she really enjoyed helping people, and doing the best job she could in helping them."

Kitchen also taught geology at The University of Toledo from 1963 until 1993, when she retired as an adjunct associate professor, and then retired from practicing law in 2005. She was a member of the American Association of Petroleum Geologists, the Michigan Basin Geological Association, the Toledo Bar Association, and Zonta Club of Toledo. She also piloted private planes and traveled. "She was truly my best friend," Marlo Kitchen said. "She was always up and in a good mood. You just enjoyed being around her." Surviving is her daughter, Margaret Ann Kitchen.

## MEET THE NEW FACULTY MEMBERS



*Tom Bridgeman*

**T**HOMAS B. BRIDGEMAN: “I grew up along the shores of the Great Lakes and spent my summers sailing and scuba diving in their waters. During my undergraduate years at Miami University, I studied the ecology of the Great Lakes and came to understand the role humans have played in exploiting and protecting this fragile ecosystem. As a master’s student, I spent several summers at the Ohio State University’s Lake Erie field station at Put-In-Bay, researching how microscopic organisms at the base of the aquatic food web, the phytoplankton and zooplankton, adapt to seasonal changes. In my doctoral research at the University of Michigan, I used these same organisms to trace the history of severe ecological disturbance in the world’s second largest lake, Lake Victoria in East Africa.

Since joining the Department of Environmental Sciences at The University of Toledo, my research has focused on the intersections of anthropogenic stressors and weather that result in severe disturbances to the ecology of the Great Lakes, in particular, Lake Erie. For example, we have found that when conditions in western Lake Erie, which are already stressed by the inflow of nutrients from an agricultural watershed, are exacerbated by summer heat waves, the result can be a catastrophic loss of mayfly reproduction. Beginning in 2007, my students will undertake a study of the ecology of blooms of the toxic “blue-green” alga, *Microcystis* sp. Blooms of *Microcystis* have plagued western Lake Erie in recent years and threaten recreational use of large portions of the lake. We hope to determine the environmental triggers for these blooms with the goal of making recommendations that could help prevent future blooms.

As a teacher, I hope to develop students’ appreciation of the complexity of the Great Lakes ecosystem. The University of Toledo’s proximity to Lake Erie makes it all the more important for students to understand their role in the wise stewardship of this precious resource. [Editor’s Note: Tom is married to our next new faculty member, Ann Krause, below.]

**A**NN E. KRAUSE: “My research focuses on the importance of subsystem structure and function to system stability from a network perspective. My colleagues and I apply cross-disciplinary methods to quantify and visualize subsystems within networks. We are investigating the importance of these subsystems in relation to changes in the individual components and the whole system after perturbations.

My doctoral research examined structural and functional properties of food-web networks, primarily focusing on Lake Michigan. During my Ph.D. studies, I also worked as a research associate at the Great Lakes Fishery Commission, where I gained an appreciation of the issues facing the Laurentian Great Lakes and the extensive network of the people involved. My research is now moving towards coupling human and natural systems. To increase my understanding of human systems, I worked as a post-doctoral research associate for a researcher of human social networks.

My future research program will focus on the application of system theory to complex issues in ecosystem management. System theory and the network methods used to test them provide a common framework for examining the integration of human and natural systems because the theories span across social and ecological disciplines and methodology can be transferred between disciplines. Currently, I am exploring the topic of sustainable land-use planning in coastal systems, particularly the relationships among decision makers on land-use policy and their local-community stakeholder groups and the landscape that is influenced by their decisions. Research should inform planning efforts on how to build local community capacity for engaging in environmentally sustainable



*Ann Krause*



land-use practices in coastal communities. In order to conduct research on this topic, I am actively seeking out collaborative opportunities with faculty within the Department of Environmental Sciences as well as faculty in other departments, such as the departments of Sociology and Anthropology, and Geography and Planning. Interdisciplinary collaborations are critical to reaching my goal of integrating ecological and social systems to achieve sustainable ecosystems. [Editor's Note: Ann and husband Tom Bridgeman had their first child after Christmas 2006.]

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**S**TACY PHILPOTT: "My interest in science started in high school in Indianapolis, but my real interest in ecology emerged while living in Seattle where I studied for a B.S. in zoology at the University of Washington. After graduating, I spent several years as a research technician studying exotic invasive ladybugs, endangered butterflies, and ant-beetle interactions in the Pacific Northwest, and working as a volunteer for human rights and environmental organizations in Central America, particularly Guatemala. This mix of experience and interest led me to pursue a graduate degree focused on insect ecology of tropical agroecosystems at the University of Michigan. Specifically, my graduate research centered on understanding the ecological importance of ants in coffee agroecosystems and how changes in farm management affect interactions between ants and their prey, parasites and predators. I also have worked at the Smithsonian Institution where I undertook a project focused on biodiversity and on economic importance of sustainable coffee agroecosystems in Mexico and Sumatra, Indonesia.

As a professor in the Department of Environmental Sciences, I hope to center my research in natural and agricultural areas. I will continue research in three basic areas: 1) community ecology, 2) ecosystem services, and 3) the interplay of agroecosystems in conservation. I plan to continue tropical research and hope to become involved in local agroecological issues in northwest Ohio. I will continue to focus on ants, other insects, and birds as ecological indicators and as model organisms for studying ecological processes. I also will continue my work on trophic interactions, spatial dimensions of ecology, and agricultural sustainability. I will encourage undergraduate and graduate students in my lab to pursue research locally or internationally in the areas of biodiversity, food web ecology, agroecology, and conservation biology.

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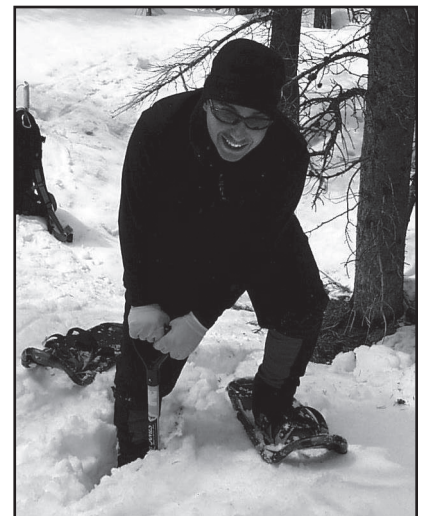
**M**ICHAEL N. WEINTRAUB: "Global climate change, nutrient deposition, changes in plant community composition, increases in atmospheric carbon dioxide concentrations, and other disturbances all have the potential to alter important ecosystem properties. These include soil nutrient availability, decomposition, and soil carbon storage. However, in many cases we don't understand the mechanisms underlying important ecosystem processes well enough to predict the



*Stacy Philpott*

effects of disturbances. Microorganisms control soil carbon and nutrient cycling, so we need a better understanding of their role in regulating these processes in order to predict how important ecosystem services will respond to changes. In an effort to improve our knowledge of how ecosystems function and predict their responses to disturbances, my research at The University of Toledo will be focused on gaining insight into the controls on soil nutrient availability and decomposition by improving our understanding of how soil microorganisms control ecosystem processes. My students and I will use this knowledge to determine how invasive plants, human disturbances, and efforts to restore native plants affect important belowground processes.

*Mike Weintraub*





## RECENT FACULTY AND STUDENT PUBLICATIONS

(Department of Environmental Sciences faculty in bold, students in bold italics, and post-docs and adjunct faculty underlined)

### BOOKS

**Camp, M.J.** 2005. *Railroad Depots of Northwest Ohio*. Arcadia Publishing (Charleston, SC).

**Camp, M.J.** 2006. *Railroad Depots of West Central Ohio*. Arcadia Publishing (Charleston, SC).

**Camp, M.J.** 2006. *Roadside Geology of Ohio*. Mountain Press Publishing (Missoula, MO).

**Chen, J.** S.C. Saunders, K.D. Brosofske, and T.R. Crow (eds.). 2006. *Ecology of Hierarchical Landscapes: from Theory to Application*. Nova Science Publisher (New York, NY).

**Chen, J.**, B. Li, Z. Ma, and B. Zhao (eds.). 2005. *Challenges Facing Ecologists: Questions and Approaches*. The Higher Education Press (Beijing, China).

### ARTICLES

Bobeldyk, A.M, **J.M. Bossenbroek**, M.A. Evan-White, D.M Lodge and G.A. Lamberti. 2005. Secondary spread of zebra mussels (*Dreissena polymorpha*) in lake-stream systems. *Ecoscience*, v. 12, p. 414-421.

**Bossenbroek, J.M.**, H.H. Wagner and J.A. Wiens. 2005. Taxon-dependent scaling: beetles, birds and vegetation at four North American grassland sites. *Landscape Ecology*, v. 20, p. 675-688.

**Bossenbroek, J.M.**, J. McNulty and R. Keller. 2005. Can ecologists heat up the discussion on invasive species risk? *Risk Analysis*, v. 25, p. 1595-1597.

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**Bridgeman, T.B.**, D.W. Schloesser and **A.E. Krause**. 2006. Recruitment of *Hexagenia* mayfly nymphs in western Lake Erie linked to environmental variability. *Ecological Applications*, v. 16, p. 601-611.

Rinta-Kanto, J.M., A.J.A. Ouellette, M.R. Twiss, G.L. Boyer, **T.B. Bridgeman** and S.W. Wilhelm. 2005. Quantification of toxic *Microcystis* spp. during the 2003 and 2004 blooms in Western Lake Erie. *Environmental Science and Technology*, v. 39, p. 4198-4205.

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- Burnett, L., **D. Moorhead**, I. Hawes and C. Howard-Williams. 2006. Environmental factors associated with deep chlorophyll maxima in dry valley lakes, South Victoria Land, Antarctica. *Arctic, Antarctic and Alpine Research*, v. 38, p. 179-189.
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- Philpott, S.M.** 2005. Trait-mediated effects of parasitic phorid flies (Diptera: Phoridae) on ant (Hymenoptera: Formicidae) competition and resource access in coffee agroecosystems. *Environmental Entomology*, v. 34, p. 1089-1094.
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- Philpott, S.M.** 2006. Ant patchiness: a spatially quantitative test in coffee agroecosystems. *Naturwissenschaften*, v. 93, p. 386-392.
- Philpott, S.M.** and I. Armbrrecht. 2006. Biodiversity in tropical agroforests and the ecological role of ants and ant diversity in predatory function. *Ecological Entomology*, v. 31, p. 369-377.
- Philpott, S.M.**, I. Perfecto and J. Vandermeer. 2006. Effects of management system and season on arboreal ant diversity and abundance in coffee agroecosystems. *Biodiversity and Conservation*, v. 15, p. 139-155.
- Philpott, S.M.**, S. Uno and J. Maldonado. 2006. The importance of ants and high-shade management to coffee pollination and yield in Chiapas, Mexico. *Biodiversity and Conservation*, v. 15, p. 487-501.
- Stepien, C.A.** and M.A. Tumeo. 2006. Invasion genetics of Ponto-Caspian gobies in the Great Lakes: A "cryptic" species, absence of founder effects, and comparative risk analysis. *Biological Invasions*, v. 8, n. 1, p. 61-78.
- Borden, W.C. and **C. A. Stepien**. 2006. Population genetic structure of smallmouth bass, *Micropterus dolomieu*, in Lake Erie discerned with mitochondrial DNA sequences and nuclear DNA microsatellites. *Journal of Great Lakes Research*, v. 32, p. 242-257.



## EXTERNAL RESEARCH GRANTS RECENTLY RECEIVED BY FACULTY

(Department of Environmental Sciences faculty in bold, students in bold italics, and post-docs and adjunct faculty underlined)

**Bossenbroek, J.M.** (PI.) and co-PIs **D. Finnoff** and **L. Iverson**. 2006. "Evaluating the economic costs and benefits of slowing the spread of the emerald ash borer in the Michigan and Ohio." U.S. Department of Agriculture, \$250,000 for January 2007-December 2008.

**Bridgeman, T.B.** 2005. "Temporal resolution of the Maumee River plume." National Oceanic and Atmospheric Administration, \$10,000 for 2006.

**Bridgeman, T.B.** (PI) and co-PI's **C.M. Mayer**, **S.A. Heckathorn** and **W.V. Sigler**. 2006. "Assessing the role of turbid river plumes in the development of *Microcystis* blooms in Lake Erie with molecular techniques." Ohio Sea Grant, \$171,000 for 2007-2009.

**Dwyer, D.** (PI) and co-PI's **J.F. Gottgens**, **J. Martin-Hayden** and **D. Apul**. 2005. "Phytoremediation research: Design of a passive biological treatment system for arsenic." U.S. Department of Agriculture, \$728,882 for October 2005-September 2008.

**Fisher, T.G.** 2006. "Deglaciation chronology of the Des Moines Lobe

– implications for ice sheet dynamics and climate change." National Science Foundation, \$30,000 for August 2006-July 2007

**Gottgens, J.F.** (PI) and co-PI **T.D. Crail**. 2006. "Restoring fish diversity in agricultural streams: Testing the impact of vegetative encroachment." Lake Erie Protection Fund, \$9,500 for May 2006-June 2007.

**Gottgens, J.F.** (PI) and co-PI **M. Benedict**. 2005. "Riparian forests in NW Ohio watersheds: Relations among landscape structure, land use, and water quality in regional rivers." Lake Erie Protection Fund, \$10,000 for March 2005-September 2006.

**D. Kashian** (PI) and co-PI's **A. Krause** and four others. 2006. "What are the causes, consequences and correctives of fish contamination in the Detroit River AOC that cause health consumption advisories?" Michigan Sea Grant, \$224,893 for May 2007-April 2009.

**Moorhead, D.** 2005. "Interacting microbial x chemical x nitrogen controls on litter-to-humus transformation." U. S. Department of Agriculture, \$89,599 for 2005-2007.

**Philpott, S.M.** 2006. "A multi-scale approach to assessing hurricane damage to agricultural systems and landscapes of varying management intensity." L'Oréal USA Fellowship for Women in Science, \$20,000 for 2006.

**Spongberg, A.L.** and **C. Mayer** (joint PI's). 2005. "REU Site: integrated assessment of physical, ecological, and socio-economic aspects of a watershed system." National Science Foundation's Research Experience for Undergraduates, \$258,909 for May 2005-April 2007.

**Czajkowski, K.P.** (PI), and co-PI's **A.L. Spongberg**, **D. Dwyer** and **W.V. Sigler**. 2006. "Monitoring agricultural sewage sludge II." United States Department of Agriculture, \$1,192,586 for July 2006-June 2009.

**Stepien, C.A.**, **C. Mayer**, **C. Gruden**, **K Czajkowski** and **K. Egan** (joint PI's). "FSML (Field Station and Marine Lab) planning grant for the Lake Erie Center". National Science Foundation, \$25,000 for October 2006-April 2008.

**Stepien, CA.** 2005. "High-resolution delineation of Lake Erie fish populations: DNA databases for resource management." U.S. Environmental Protection Agency, \$628,000 for 2005-2007

## RECENT STUDENT ACHIEVEMENTS

**T**wo graduate students in the wetlands group received grants from the Lake Erie Protection Fund in support of their research. **Michael Benedict**, fall 2006 doctoral graduate, received a \$9,100 grant for his innovative work on riparian forests in northwest Ohio watersheds. Benedict is particularly interested in the relationships between landscape structure, land use and water quality. Using water quality data for nine regional watersheds and computing various landscape metrics in GIS, he developed a rapid method to identify the best riparian forests for water quality benefits without the need for long-term and expensive monitoring of water chemistry or stream biology. Additional support for his work came from a three-year UT Doctoral Fellowship Award. Benedict has accepted a position as a new assistant professor of environmental sciences at Hiram College in Ohio, ranked among the country's most prestigious liberal arts institutions.

**Todd Crail** also received a nearly \$10,000 grant from the Lake Erie Protection Fund for his work on the fish diversity in agricultural segments of channelized streams in the headwaters of the Ottawa River, a tributary watershed to western Lake Erie. Plant encroachment into these ditches and the resulting fluvial geomorphology are surmised to improve water

(continued on p 12)



# *Recent Gifts and Donations*

- |                                 |   |
|---------------------------------|---|
| <b>Lou Bertoli</b>              | <b>James Kralik</b>                           |
| <b>David Beverstock</b>         | <b>James Lagrou</b>                           |
| <b>Lee &amp; Virginia Black</b> | <b>Jeffery &amp; Monica Leberfinger</b>       |
| <b>Michael Burke</b>            | <b>Jayne Ludwikoski</b>                       |
| <b>David Buss</b>               | <b>Frank Majchszak</b>                        |
| <b>Matt &amp; Penny Choma</b>   | <b>Michael McGee</b>                          |
| <b>Stephen Clarke</b>           | <b>Terrence Perris</b>                        |
| <b>Gene &amp; Nancy Collins</b> | <b>Clark Scheerens</b>                        |
| <b>Matthew Cousino</b>          | <b>Brian Shadbolt</b>                         |
| <b>Devon Energy Corp.</b>       | <b>Marc Silverman</b>                         |
| <b>Joyce Dunkin</b>             | <b>Susan Smith &amp; Owens Illinois Corp.</b> |
| <b>Dale Anne Eckstein</b>       | <b>Kent &amp; Patricia Starrett</b>           |
| <b>Tim Eckstein</b>             | <b>Andrew Taddei</b>                          |
| <b>Emerson Corp.</b>            | <b>Jerold Thomas</b>                          |
| <b>Ernest Fink</b>              | <b>Toledo Gem &amp; Rockhound Club</b>        |
| <b>Timothy Fisher</b>           | <b>Nicholas Valkenburg</b>                    |
| <b>Norm Heydinger</b>           | <b>Michael Watkins</b>                        |
| <b>Carl Hopfinger</b>           | <b>Amy Wilt</b>                               |
| <b>David Hume</b>               |   |
| <b>Mark Huffman</b>             |   |
| <b>James King</b>               |   |
| <b>Olga Kneller</b>             |   |

## **ACHIEVEMENTS**

(continued from p 11)

quality and produce a more-stable cross section in these ditches. Crail is evaluating the ecological impact of this vegetative encroachment by comparing the structure and composition of fish communities in ditches with and without plant intrusion. Crail and his loyal crew of field assistants uncovered a remarkable fish diversity in these ditches, including a previously unknown population of the least darter (*Etheostoma microperca*), a State Species of Concern. He demonstrated a substantial difference between stream segments with and without plant intrusion. In 11 sample events between June 2005 and September 2006, Crail collected, identified and released (unharmed) more than 11,000 fish representing 25 species. Less than 1 percent of these fish were exotic species. Crail is scheduled to graduate with a MS degree in fall 2006 and is continuing in our doctoral program.



## NEW ALUMNI

### BACCALAUREATE STUDENTS

#### 2005 GRADUATES

**CONNELL, Brett**

BS Environmental Science

**DESAINT VICTOR, Colin**

BS Environmental Science

**MARCELIN, Amy**

BA Environmental Studies

**NORTON, Abby**

BS Geology (Dept. Honors)

**SMEDLUND, Nicole**

BS Environmental Science (cum laude)

**WALKER, Traci**

BA Environmental Studies (cum laude)

#### 2006 GRADUATES

**AUXTER (BOYTIM), Heather**

BA Geology

**BETZ, Sally**

BS Environmental Science (magna cum laude)

**HENNING, Jessica**

BS Environmental Science

**HUNLOCK, Kyle**

BS Environmental Science

**PITTS, Justin**

BS Environmental Science

**SCHNEIDER, Joshua**

BS Environmental Science

**SCHWAB, Douglas**

BS Environmental Science

**THURSTON, Jay**

BA Environmental Studies

### GRADUATE STUDENTS

#### 2005 GRADUATES

**LAHNERS, AMBER**

(MS Geology, 2005)

Thesis: "Constraining the Nipissing transgression in the Central Lake Michigan Basin" [adviser: T.G. Fisher]

**WEYER, KELLY**

(MS Geology, 2005)

Thesis: "Eolian sand in lacustrine sediment: a proxy for water levels in the Lake Michigan Basin" [adviser: T.G. Fisher]

#### 2006 GRADUATES

**ARGO, DAVID**

(MS Ecology, 2006)

Thesis: "Habitat use by two native turtle species in the Ottawa National Wildlife Refuge" [adviser: D.L. Moorhead]

**CHEN, MEI**

(MS Ecology, 2006)

Thesis: "Protein profile changes of *Arabidopsis* leaves in response to boron stress" [adviser: S.A. Heckathorn]

**ELKINGTON, BRIAN**

(MS Ecology, 2006)

Thesis: "The effects of turbidity quality and quantity on zooplankton consumption by young of year yellow perch (*Perca flavescens*)" [adviser: C.M. Mayer]

**KOLINKSI, CAINE**

(MSE Education/Ecology, 2006):

Thesis: "The search for beauty in science education" [adviser: J.F. Gottgens]

**LACROIX, JACOB**

(Ph.D. Ecology, 2006)

Dissertation: "Interactions between fire and landscape structure: applications of the FARSITE model" [adviser: J. Chen]

**LAWHORN, NICOLE**

(MS Ecology, 2006)

Thesis: "Impact of Coleopteran-active Bt corn on extracellular enzyme activities and decomposition processes of non-target microbial communities in soil and litter" [adviser: D. Neher]

**LI, QINGLIN**

(Ph.D. Ecology, 2006)

Dissertation: "Carbon storage and fluxes in a managed oak forest landscape" [adviser: J. Chen]

**LOOPE, HENRY**

(MS Geology, 2006)

Thesis: "Deglacial chronology and glacial stratigraphy of the western Thunder Bay lowland, northwest Ontario, Canada" [adviser: T.G. Fisher]

**MCKENNA, KERRY**

(Ph.D. Ecology, 2006)

Dissertation: "Comparing carbon dynamics of pelagic food webs in two Antarctic lakes: a practical application of ecological network analysis to an ecological network" [adviser: D.L. Moorhead]

**MEINHART, JAMES**

(MS Geology, 2006)

Thesis: "Building stones of Toledo, Ohio: a survey of dimension stone use in significant structures including history and walking tours of the downtown area and the Old West End" [adviser: M.J. Camp]

**MIERZWIAK, SARA**

(MS Geology, 2006)

Thesis: "Enhanced in situ bioremediation of a trichloroethylene groundwater plume using a dilute vegetable oil emulsion" [adviser: A.L. Sponberg]

**MURBI, HARRISON**

(MS Ecology, 2006)

Thesis: "Use of geospatial technology to map Great Lakes invasive species" [adviser: D.F. Dwyer]

**SCARBRO, JONA**

(MS Ecology, 2006)

Thesis: "Microbial transport through the vadose zone of a biosolid amended cropland: implications for land application of Class B biosolids and surface water quality" [adviser: D.F. Dwyer]

**STEARNS, ANNE**

(MS Ecology, 2006)

Thesis: "The management status of southwestern coastal Lake Erie marshes: challenges and opportunities to maximize natural wetland functions" [adviser: J.F. Gottgens]



## MISSING ALUMNI

### BA/BS AND BA/BS+MS RECIPIENTS

Cole, Kenneth - BS '63  
Kraus, Edward F. - BS '65  
Floyd, Jack C. - BS '67  
Shafer, Jeffrey D. - BS '67  
Strogonoff, Robert - BS '67  
Estelle, Duane - BS '67  
Bruning, James E. - BS '67, MS '69  
Umlauf, James R. - BS '68  
Luppens, J.A. - BS '68, MS '70  
Hamilton, David C. - BS '69  
Kaufman, William H. - BS '69  
Smith, Richard C. - BS '69  
Syvert, Raymond J. - BS '69, MS '73  
Horvath, Terry M. - BS '70  
Leflet, David H. - BS '70  
McCown, Michael W. - BS '70  
Dunham, John B. - BS '71  
Gibbs, Calvin H. - BS '71  
Taylor, Larry E. - BS '71, MS '74  
Fraute, Enrique D. - BS '72  
Gonzalez, Franklin - BS '72  
Kruth, Marc C. - BS '72  
Meyers, James B. - BS '72, MS '74  
Mielbeck, Robert - BS '72  
Sweeney, Susan T. - BS '72  
Szelagowski, Gerald - BS '72  
Thompson, Charles - BS '72  
Schneider, Ron - BS '73, MS '75  
Perkins, C. Michael - BS '73, MS '74  
Eleftheriou, Panayotis - BS '74  
Heiing, Arthur J. - BS '74  
Madej, Thomas - BS '74  
Lopez, Raymond J. - BS '74  
Baumgardner, James E. - BS '75  
Studer, Roger C. - BS '75  
Cordas, John J. - BS '75, MS '77  
Dutcher, Bruce J. - BA '76  
Fortuna Raymond - BS '76  
Sutton, Patricia (Chalmers) - BA '76  
Szumigala, Amy L. (Mohler) - BS '76

Amy E. Taylor (Klimo) - BS '76, MS '83  
Basile, L. Loraine (Allison) - BS '77  
Polcyn, Carl E. - BS '77  
Shoemaker, Robert L. - BS '77  
Weekly, Marlyn - BA '77  
Wickes, John - BS '77, MS '80  
Barton, Mark A. - BS '79  
Kammeyer, Kendra A. (Zink) - BS '80  
Swanson, Mark H. - BS '79, MS '87  
Zink, Lawrence A. - BS '80  
Sares, Matthew A. - BS '81  
Starkey, Michael J. - BS '81, MS '85  
Taylor, Matthew J. - BS '81  
Napierala, Annette - BA '84  
Kassaie, Mohammad N. - BS '85  
Lakhlani, Nilesh - BS '85  
Bakar, Basri B. - BS '86  
Campbell, Janny (Jung) - BS '86  
Khan, Waseem A. - BS '87  
Sedlak, Kevin M. - BS '88, MS '94  
Johnston, Joel - BS '89  
Fisher, Robert R. - BS '90  
Thorbjornsen, Karen - BS '91  
Augustyniak, Mark - BA '92  
Swartz, Brian - BS '92, MS '94  
Hooker, James - BS '93  
Koenigseker, Aaron D. - BS '93  
Langenderfer, Eric - BS '93  
Heuberger, Joel - BS '94  
Hickey, Jessica - BS '99  
Peterson, Michelle - BS '00  
LaSalvia, Matt - BS '01

### MS ONLY RECIPIENTS

Johnson, Russell P. - MS '69  
Oddo, John E. - MS '71  
Sherif, Nasreddin - MS '71  
Copley, David L. - MS '71  
McLin, Stephen G. - MS '73  
Burke, Michael R. - MS '73  
Burgett, Thomas L. - MS '74  
Kuntz, Michael G. - MS '74  
Meyers, James B. - MS '74

Weis, Lawrence A. - MS '74  
McBride, Robert T.J. - MS '75  
Armstrong, William B. - MS '76  
Clark, Karen A. - MS '76  
Folkoff, Donald W. - MS '77  
Turner, William S. - MS '77  
Koechlein, Harold D. - MS '77  
Bienkowski, Henry G. - MS '78  
Killberg, Glen C. - MS '78  
McAvey, Michael B. - MS '78  
Venturoli, Katherine A. - MS '78  
Gindlesperger, Gary D. - MS '79  
Reimann, Martha Campbell - MS '79  
King, Mark G. - MS '79  
Behbehani, Abdulsamee S.K. - MS '80  
Tsai, Louis L-Y. - MS '80  
Stump, Dennis - MS '81  
Hancsak, Lynn J. (Eller) - MS '82  
Hoover, John A. - MS '82  
Krywany, Joseph M. - MS '82  
Kreutzfeld, James E. - MS '82  
Kose, Celal - MS '84  
Lewis, Amy H. - MS '85  
Mohd-Nurin, Abdul R. - MS '86  
Hjelias, Mohd R. - MS '87  
Madigan, Terrence J. - MS '87  
Baggett, Stephen M. - MS '87  
Wolberg, Kathryn E. (DeVencia) - MS '87  
Kihn, Gary E. - MS '88  
King, Mary - MS '88  
Kragbe, Boniface G. - MS '89  
McMahon, David - MS '90  
Bauzier, Abdulmunim D. - MS '91  
Hume, David S. - MS '91  
Darus, Muhyidin - MS '92  
Smith, Phil - MS '93  
Zhou, Xuming - MS '94  
Trytten, Brad - MS '95  
Pieton, Patrick R. - MS '96

*If you know the whereabouts of any of these missing alumni, please notify Diane Brown (diane.brown@utoledo.edu) or Jim Harrell (james.harrell@utoledo.edu).*



## DONATION FORM (ASESNEWS)

*Yes, I would like to join other alumni in supporting education and excellence in the Department of Environmental Sciences at The University of Toledo. Please apply my donation to the following fund(s):*

- Lon C. Ruedisili Hydrogeology / Environmental Geology Fund
- Toledo Gem & Rockhound Club Scholarship Fund
- Helen Edenburn Geology Fund
- General EEES Progress Fund
- Ernest Fink Fund
- William A. Kneller Geology Graduate Student Support Fund
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