

# IN VIVO

Newsletter of the University of Tennessee Division of Biology

VOLUME 1, NUMBER 3

AUGUST - SEPTEMBER 2001

## Protecting native species

While others are content to conduct their research indoor, **Dr. Arthur "Sandy" Echternacht** prefers the field. As a professor of Ecology and Evolutionary Biology, the focus of his research are the lizards *Anolis carolinensis* or green anole, and *Anolis Sagrei*, or brown anole.

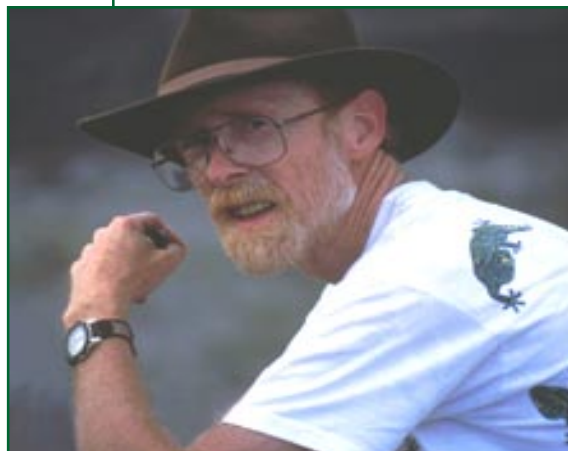
Echternacht studies the behavioral ecology, genetic make-up, and interactions with invading species and native species of the same genus. This genus is mainly tropical and subtropical, but the *A. carolinensis* is found as far north as East Tennessee.

Since the species is tropical and incapable of hibernation, the green anole of East Tennessee lives on exposed, south facing rocks in the winter. "That's what got us interested in the first place," Echternacht said. "We have gone out in January where the air temperature is below freezing, but the sun is out.

Since a lizard's body temperature is based on what is in its immediate vicinity, they are really comfortable as if it were summer and we're standing out there only a few meters away in parkas."

The main threat to the green anole is the non-native brown anole. The brown anole was introduced accidentally into South Florida about 60 years ago. It reproduces at a faster rate and eats the hatchlings of the green anoles.

For example, during an experimental release by Echternacht and graduate student **Todd Campbell** on spoils islands in Mosquito Lagoon of the Florida Intercoastal Waterway, near Canaveral National Seashore,



*Echternacht in the Galapagos*

eighteen brown anoles increased to over 500 by the second year.

Consequently, the green anole is rapidly being displaced in Florida and in other areas as the brown anole travels north. Echternacht said, "The brown anole is being introduced farther north by largely accidental means. Either by pet shop stock escaping, lizards traveling in landscape plants, or on vehicles. In fact, when Todd surveyed Interstates 75 and 95,

*Continued on page 5*

## From the Director John Koontz, Ph.D.



We are starting a new fiscal and academic year for the university. Ordinarily one is filled with optimism and enthusiasm at the start of anything new.

During the summer, fewer teaching obligations provide greater opportunities for involvement with our research programs. In talking with colleagues one can sense their excitement about the work they are accomplishing. In most instances this is achieved not only by their own efforts but also by the undergraduates and graduate students whose work they direct in the field or the laboratory. Faculty frequently remark about the progress of their students, the personal growth and maturity being achieved.

The faculty is also enthused about changes they are making to the courses they teach. They are anxious to observe how the students will receive their efforts to update the course material and to incorporate new technology into their teaching. They are incorporating ideas for increasing the interest of the students in the course content, ideas for getting the students to apply what they are learning in ways that reflect "real life" situations.

Another reason for optimism and enthusiasm is that several new faculty members are joining us this year. We will have new colleagues who will

*Continued on page 3*

### Table of Contents

From the Director .....	1
Spotlight on EEB .....	1
Department News .....	2
New Faculty .....	4
Focus on Retirees.....	6
Division Update .....	7



## A Word from the Head

Thomas Hallam, Ph.D.



Happy Birthday to The Department of Ecology and Evolutionary Biology!

Five years ago, an eclectic collection of scientists migrated from six different departments at UT to form Ecology and Evolutionary Biology (EEB). A celebration of this momentous occasion will occur during the coming year with a special colloquium series that includes several past ecology and evolution graduates from our founding departments at UT.

During our relatively short existence, we have developed a contemporary interdisciplinary program that has generated a multitude of interactions among our faculty and students, and, interestingly, has resulted in almost no problems. I am continually amazed at the brilliance, congeniality, diligence, and concern of EEB faculty for our teaching, research and outreach programs in spite of our poor financial environment.

The faculty leads by generating many research dollars, constructing and teaching contemporary courses, and serving in diverse ways on numerous editorial boards, review panels (several requiring U. S. presidential and senate approval) and through public presentations.

### Composition of the Department is changing

Since 1999, we have hired four new assistant professor level faculty members: **Jake Weltzin**, a plant ecosystem ecologist who joined the department in August 1999; **Jason Wolf**, an evolutionary geneticist, will join EEB in August 2001; **Paula Kover**, an evolutionary scientist who works on plant-pathogen interactions, will join in January 2002; and **Marguerite Butler**, whose major works are on the evolution and

ecology of sexual dimorphism, will arrive in August 2002.

EEB has four positions available for future hires so the complexion of the department will shortly be strongly influenced by our new faculty. Some of these positions exist as a consequence of retirements; names of our recent emeriti faculty you may recognize from your past association with UT are Professors **Clif Amundsen**, **David Etnier**, **Frank McCormick** and **M. L. Pan**. Each of these has had a significant impact on our program, has developed national and international reputations, and, fortunately for EEB, most plan to be around the department in teaching or research roles for the near future.

### Facilities are improving

ABACUS, the EEB Computational Instructional Laboratory, has been essentially completed and is presently being employed for teaching. Computers include both PC and Mac boxes. SPECS, the EEB Computational and Visualization Laboratory, is nearly complete and will be available for faculty and graduate student use during the fall semester. Unix, PC and Mac platforms are available here.

After many years of postponements, the Hesler Biological Building, which houses a number of EEB faculty, is being renovated. Construction is scheduled to begin in March 2002. Temporary space, some really nice and some less desirable, has been provided for teaching and research purposes for faculty and students displaced by the renovation.

We look forward to the day when the department and staff are not dispersed across campus in six different buildings (although this separation has been mentioned as a reason why our faculty get along so well).

*Continued on page 3*

## Ecology and Evolutionary Biology Department

569 Dabney Hall  
Knoxville, TN 37996-1610  
(865) 974-3065 Fax (865) 974-3067  
[www.bio.utk.edu/eebwebsi.nsf](http://www.bio.utk.edu/eebwebsi.nsf)

**Thomas Hallam**, Department Head  
thallam@utk.edu  
**Cliff Amundsen**, Professor Emeritus  
amundsen@utk.edu  
**Phyllis Bice**, Sr. Admin Serv Assist  
pbice@utk.edu  
**Christine Boake**, Assoc Department Head  
cboake@utk.edu  
**Dewey Bunting**, Professor  
dbunting@utk.edu  
**Gordon Burghardt**, Professor  
gburghar@utk.edu  
**Marguerite Butler**, Assistant Professor  
effective 08/01/02  
**Lee Cooper**, Research Assistant Professor  
lcooper1@utk.edu  
**Mitchell Cruzan**, Assistant Professor  
cruzan@utk.edu  
**Hazel Delcourt**, Professor  
hdelcourt@utk.edu  
**Paul Delcourt**, Professor  
pdelcourt@utk.edu  
**James Drake**, Associate Professor  
jdrake@utk.edu  
**Arthur Echternacht**, Professor  
echterna@utk.edu  
**Dave Etnier**, Professor Emeritus  
dipnet@utk.edu  
**David Fox**, Associate Professor  
djfox@utk.edu  
**Sergey Gavrillets**, Associate Professor  
gavрила@utk.edu  
**Jacqueline Grebmeier**, Res Assoc Prof  
jgrebmei@utk.edu  
**Neil Greenberg**, Professor  
ngreenbe@utk.edu  
**Louis Gross**, Professor  
lgross@utk.edu  
**Paula Kover**, Assistant Professor  
Effective 01/01/02  
**Cheryl Lynn**, Principal Secretary  
cjlynn@utk.edu  
**Gary McCracken**, Professor  
gmccrack@utk.edu  
**Linda McMillan**, Senior Secretary  
ldmcmillan@utk.edu  
**Anne Mintz**, Senior Clerk-Typist  
amintz@utk.edu  
**M.L. Pan**, Professor Emeritus  
mpan@utk.edu

*Continued on page 7*

## Head, Continued from page 2


### Dream of a Field Station

Ecologists seldom dream of sugarplums, but frequently of tantalizing ecological systems. EEB is striving to improve our teaching, research and outreach facilities by founding an ecological field station in the foothills of the Great Smoky Mountains. We look forward to the day when this dream becomes reality. More information on this issue of great importance to EEB will hopefully be forthcoming in the near future.

The EEB world is not completely propitious as we do have financial problems that impact both students and faculty. We are presently in the 2001-2002 fiscal year and are operating on a weird continuation budget. Experience shows that our faculty is raidable by other universities; Columbia, Virginia, and Washington-Seattle recently have benefited with acquisitions from EEB.

EEB has been able to recruit outstanding graduate students because of our distinguished faculty, not because of an infinitesimally small graduate student base salary. UT's recent operational mode, with its administrative flux, rivals the complexity of biological systems. By necessity, EEB has chosen to ignore the surrounding chaos and continues to grow through knowledge development.

### A Special Welcome

We could be delighted to have you stop by the main office at 569 Dabney Hall, browse in our departmental library, and relax in our commons area at any time. If you would like additional information about our department, please contact us. 

[thallam@utk.edu](mailto:thallam@utk.edu)

## Director, Continued from page 1


contribute new, fresh ideas to our research and teaching programs. They represent the future of our departments and the university. You will learn about these new faculty in this and future issues of In Vivo.

A committed involvement in their research and teaching has been especially important these last few months as news of the legislator's efforts to deal with the state budget are published in the local press. It is no secret that the state of Tennessee has a budget problem. Lip service is paid to the support of higher education but an unsure, unreliable revenue base coupled with burgeoning, uncontrolled costs of publicly supported health care programs means that tough decisions must be made in order to provide a suitable fix to the budgetary problems.

While this problem is not new, it seems that this year's efforts at resolving the problem are more contentious than ever. The final budget presented to the governor for his signature is a hodge-podge of stopgap measures designed to get the state through another year without really having to deal with the tough issues. It will force cutbacks that could and probably will cause long-term harm to the university. It is jeopardizing our ability to recruit new faculty to fill positions vacated by retirement. It is a factor in existing faculty leaving to go to other universities.

In the Division we have paperwork in place to search for eight new faculty members during this upcoming year. We have identified at least that many more positions that will be vacated within the next two years. Two of these latter vacancies are the result of excellent faculty leaving us to go to other schools. The perception that the state is not committed to improving the budgetary status of higher education in the state and that it won't get any better is a significant factor in their decision to leave.

With this kind of news as a backdrop, most faculty members retain their

enthusiasm for their research and teaching. We struggle with the impact of these budgetary decisions and work to make the best of the situation. 

[jkoontz@utk.edu](mailto:jkoontz@utk.edu)

### Recent EEB Faculty Travels:

**Gordon Burghardt** presented two lectures this summer. First was "Emergence in evolution" in June in Garrison, New York.

He then traveled to Corvallis, Oregon in July with graduate student **Lynn Almlí**. There he addressed the Animal Behavior Society on the topic of "The comparative distribution of play."

Among his many travels so far this year, **Dr. Sandy Echernacht** visited the British West Indies in February to assist the Cayman Island Department of Environment and the National Trust for the Cayman Islands. There he identified amphibians and reptiles from the Bahamas and Grand Cayman that had been confiscated from German smugglers.

In May he went to Midway Atoll to investigate the circumstances of the extirpation of a lizard species that had become established on one of the islands.

*Continued on page 4*

### IN VIVO

An Alumni newsletter published by the University of Tennessee, Knoxville Division of Biology

**John Koontz**, Director  
**Laura Maples**, Primary Writer/Editor  
[www.bio.utk.edu](http://www.bio.utk.edu)

**Please send alumni information to:  
The University of Tennessee**

Division of Biology  
M303 Walters Life Science Building  
Knoxville, TN 37996-0830  
(865) 974-6841

Fax (865) 974-4057

[lmables@utk.edu](mailto:lmables@utk.edu)

## Unraveling the mysteries of plant evolution

Having been raised in Brazil, she never felt the allure of the States until she spent some time as a research assistant at Yale. Then **Dr. Paula X. Kover** was hooked.

She returned to Brazil and earned her undergraduate degree from the Federal University of Rio de Janeiro, but all the while, she knew she would be heading back to the north to complete her education.

Over time her research began to focus more on the ecology and evolution of plants. Because of this she decided to go to Indiana University to combine her studies of ecology and molecular biology. She said, "It was clear to me that I needed to understand both genes and ecology to unravel plant evolution."

While gaining a background in plant genetics, Kover became interested in the interaction between plants and pathogens, specifically when tied to plant fitness or yield. She said, "The broad goal of my research is to understand how ecology and genetics interact to determine the evolutionary trajectory of a species. I focus specifically on how the interactions between plants and pathogens shape both the host and pathogen population genetics." She currently continues her work on this as a NSF Minority Postdoctoral Fellow at Washington University in St. Louis, Missouri.

Specifically, Kover studies the mustard plant *Arabidopsis thaliana* and the bacteria *Pseudomonas syringae*. She chose *A. thaliana* because it has a very short generation time, with the seed to seed cycle of two months, and because its genome has been completely sequenced. While at Washing-

ton she collaborates with **Dr. B. Kunkel**, a molecular biologist, **Dr. James Cheverud**, a quantitative geneticist and **Dr. Barbara Schaal**, a plant population geneticist.

However, she will not stay with Washington much longer because she has accepted an assistant professorship here at UT in the EEB




*Kover in her Washington Lab*

department. Kover said, "I was particularly impressed with the quality of the faculty and their collegiality. I was looking for a department where work would be a challenging, but rewarding and I felt that EEB had these characteristics."

She plans to continue focusing on *A. thaliana* and *P. syringae* for her own research, but said, "I do not expect that my students will work on this system. On the contrary, I will encourage them to work with native plants."

It will be January 2002 before she will be able to move to Knoxville and join her husband, and fellow faculty member, **Dr. Jason Wolf** (facing page).

In the meantime Kover will continue to write papers and grant proposals. NSF and Monsanto currently support her research and she will likely be applying to NSF again and USDA in the near future. 

[kover@biology.wustl.edu](mailto:kover@biology.wustl.edu)

## Travel, Continued from page 3


While visiting Cambridge, Massachusetts, **Dr. Neil Greenberg** got an idea. He said, "The Sackler is Harvard's museum for Asian, Islamic, and Indian art and antiquities and while there I was really taken with some new acquisitions and found myself rethinking the influence of culture on perceptions of nature and even on how scientific beliefs come to affect public policy."

The result of this is the beginnings of a unique interdisciplinary forum. Working through University Studies, UT's interdisciplinary faculty development program, such a forum might be held late next spring and may be underwritten by the Faculty Colloquies, "Evolution and Culture" and "Technology, Society, and the Common Good".

In addition, given sufficient interest, an undergraduate or graduate course dealing with these themes and incorporating the forum could be offered. If you have ideas or an interest in helping or contributing to such an enterprise, please get in touch with Greenberg at [ngreenbe@utk.edu](mailto:ngreenbe@utk.edu).

**Dr. Susan Riechert** spent May 20-June 10 traveling through Oklahoma, Texas, Colorado, Utah, Arizona and New Mexico with graduate student **Nadia Ayoub**. They were collecting individuals from the, *Agelenopsis aperta* species.

These funnel spiders occupy a large range and are found in both arid and riparian areas. Riechert said, "We are interested in learning the genetic history of this species. Which behavioral type developed first, fearful riparians or aggressive arids, and what is the pattern of spread of the traits?"

This was the second of several trips planned and Riechert and Ayoub returned with 25 individuals collected from each of the 13 sample populations. 

## Social interactions and trait evolution



What ultimately determines the traits or characteristics of an organism? Are they solely determined by an individual's

genes or does gene expression in the mother influence trait expression in her progeny? **Dr. Jason Wolf**, a new assistant professor to the EEB department, is examining this and other related questions.

Using a combination of theoretical and empirical approaches, Wolf has been using early growth measures of mice to determine the influence of the mother on her progeny.

He is interested in studying the relative importance of the social influence of the mother versus the importance of gene expression in the progeny with an ultimate goal of understanding the genetics and evolution of complex traits. While his work is currently focused on mice, he plans to extend it to fruit flies in the future.

In addition to his current support from the NSF, he hopes to secure research funding from NIH and USDA for his work. According to Wolf, NIH has an interest in understanding all the genetic factors that make individuals the way they are, since this will help understand disease and development.

Wolf feels his work will fit well with NIH because he is "working in a relatively novel area, looking at how often ignored sources of genetic variation contribute to variation in complex traits."

He gave body weight as an example, which is probably influenced by many genes. He said, "There is evidence that maternal effects determine, at least in part, an individual's likelihood of developing obesity and diabetes later in

life." From the perspective of the USDA, Wolf hopes his work will help in the "understanding of the contribution of social interactions to trait evolution, which could be important in understanding crop evolution that occurs as a result of artificial selection."

Wolf is originally from Port Chester, which is a suburb of New York City. After completing his bachelor's degree at Binghamton University, he began his graduate work at the University of Kentucky.


He followed two professors **Dr. Edmund Brodie** from UK and **Dr. Michael Wade** from the University of Chicago to Indiana University where they collaborated on a shared interest in social evolution. He also met his future wife, **Dr. Paula Kover** (facing page), while at IU.

**"I knew that these people would be great colleagues, and with so many internationally respected faculty members it seemed like we would remain a high profile program able to attract top students"**

After graduating, Wolf accepted a Postdoctoral Research Fellowship in Biological Informatics from the NSF to support work at Washington University in St. Louis, Missouri. Through the influence of **Drs. James Cheverud** and **Allen Moore**, Wolf began to focus his interests in exploring the area of genetic variation and its contribution to complex traits in organisms.

His interest in UT began with his interaction with the EEB faculty at various regional and national meetings, particularly with **Dr. Christine Boake** on the subject of the genetics of behavior. Wolf said, "I knew that these people would be great colleagues, and with so many internation-

ally respected faculty members it seemed like we would remain a high profile program able to attract top students." He will move into his lab at UT this fall, but will not be teaching until spring semester.


Wolf's lab will house computers capable of analyzing genetic data, molecular tools to genotype individuals, equipment to aid in molecular genetic analysis, digital imaging equipment, microscopes with cameras and new tools that aid in the study of gene expression using DNA micro-arrays. 

### *Echternacht, Continued from page 1*

brown anoles were found only in northbound rest areas."

It is a different story in the Cayman Islands where the *Anolis conspersus* or blue-throated anole, is aggressively fighting off the invading brown anoles. Graduate student, **Glenn Gerber**, found that although the browns were multiplying rapidly, the native blue-throats were not threatened.

Since 1975, Echternacht has worked to increase the involvement of undergraduate students in field research. In recent years, he and his graduate students **Todd Campbell** and **Todd Vincent**, have offered field methods courses in Florida during the summer months where they have taken groups to aid in the anole research. Echternacht also teaches Herpetology, Zoogeography, and Foundations: Readings in Ecology.

His research takes him to many exotic places around the world and this allows him to indulge in his hobby of nature photography. Echternacht's travels also equip him to arrange and guide eco-tours in such places as the Galapagos Islands. His next adventure will be to take a group down the Amazon River in the winter of 2002. 

[echterna@utk.edu](mailto:echterna@utk.edu)

## Three retire from EEB

The following are excerpts from **Dr. Thomas Hallam's** speech given at the April 27, 2001 retirement dinner honoring three EEB faculty members: **Dr. Clifford Amundsen, Dr. David Etnier** and **Dr. M.L. Pan**, who have a combined total of 94 years of service at UT.

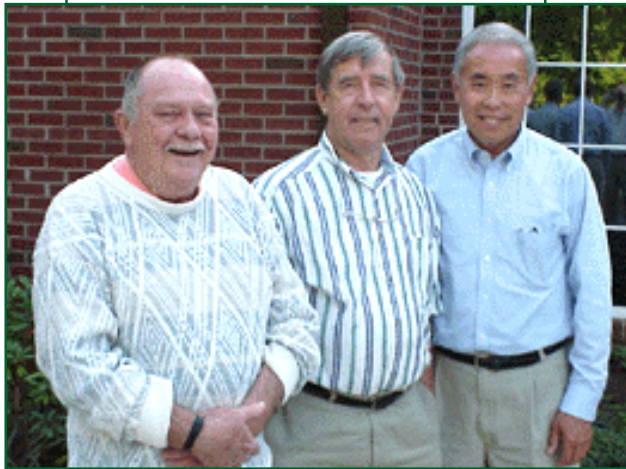
"We will remember Cliff for many things — his love for teaching undergraduates, devoting one day a week to getting them in the dirt of the field. He is perhaps the ultimate field ecologist, working in both aquatic and terrestrial systems, wading in the mud and hiking in the woods.

Cliff's interests motivate his annual attire of hiking shorts. Implications of such a distinct fashion statement include the toughest legs in existence.

A few years ago, while leading a group of undergraduates through the Tennessee boondocks, a tree stub sliced his leg almost to the bone and he did not know it for three days. Cliff, we wish you the best and hope that you find the perfect Idaho retreat on a river with a thermal spring in your woods.

Dave (see focus article below) will

be remembered for his teaching where he won a University award, and his research where he has amassed an unsurpassed collection of fishes, one of which was used to hold up construction of TVA Dam for ten years.



*Clifford Amundsen, David Etnier, and M.L. Pan at their retirement party*

Dave doesn't have to retire. He is a young man. But he has the call of a wild Minnesota island in his mind and just could not make it back to Knoxville in time to teach a class in the fall. Enjoy your island, but we still expect the smoked fish upon your return. Dave, thanks very much and we will miss you!

M.L. is a quiet gentleman whose high quality teaching and outstanding research in the role of lipids and proteins in insect reproduction speak volumes.

M.L.'s research is very encompassing. Most of us use our garages for storing cars and stuff. Not M.L. He uses his to store butterflies. He catches monarchs as they migrate through Tennessee, and uses his garage as a butterfly lab to look at the energetics of migration.

M.L. has a great avocation, photography, in which he has published many articles. You can see some of his excellent handiwork on the walls in our EEB auxiliary laboratory (commons room).

He kindly donated all of his photos to enhance our gathering place.

We are pleased that each of these fine folks are going to be involved in our program next year even though they are retired. Please join me in an ovation to help thank these great guys for their contributions over the years."



## "It's been a great experience"

"I came down for the interview and they made me an offer. When I called home, I said, 'Liz, you're going to love it. We'll be there all our lives.'" He made that call in 1965 and **Dr. David Etnier** has never regretted the move to UT.

Back in the early 60's, while in graduate school in Minnesota, he saw the allure of East Tennessee. He said, "While studying fish systematics, I would see a picture and think, 'boy, is that a cool fish. I wonder where it lives.'" Invariably when he would look up the distribution of the species, the anthology would read "restricted to the upper Tennessee River drainage". "So coming to this area looked wonderful


to me," Etnier said.

Although he retires this year, he will not be leaving his work. "The only reason I'm stepping down is because I don't have enough time to write up all the research that I have accumulated." Etnier's research time is split between the study of the systematics, biogeography and biology of regional freshwater fish and the systematics, distribution and larval taxonomy of Trichoptera (caddisflies).

His passion for collecting and studying freshwater and marine fish is illustrated by his collection of over 300,000 specimens. He started the collection in 1966 and says it is in the

top 20 in North America.

Etnier developed an interest for the flies during an aquatic insect class that he took in summer school in 1965. "I just thought caddisflies were pretty cool, and they are. They build their own houses," he said. During the larval stage, caddisflies build their underwater cocoons out of sticks and pebbles. Since his work began, Etnier has helped identify over 410 species in the southeast, with three bearing his name.


Etnier still plans to continue to teach his Aquatic Insects class every other year and take students on fall float trips down the Mississippi River. 

## Faculty and Staff Notes:

**Dr. Barry Rouse**, professor in Microbiology, has been awarded a new four-year appointment to the NIH Immunological Science Study Section (IMS). This is his third appointment to the prestigious study section.

The University of Tennessee Annual Honors Banquet handed out awards to three EEB faculty members in April. **Dr. Arthur Echernacht**, professor, received the Service to Community Award. **Dr. David Fox**, associate professor, received the UT National Alumni Association Public Service Award for his 30 years of volunteer work in area schools.

**Dr. Sergey Gavrilets**, associate professor, was awarded the Research and Creative Achievement Award.

From within the EEB department: **Linda McMillan**, senior secretary, **Cheryl Lynn**, principal secretary, and Cheryl's three-year-old daughter **Hannah**, participated in the "Walk to Cure Diabetes" 5K Walk in May. Through the generosity of UT faculty and staff, family and friends, McMillan and Lynn were able to double their donation from last year. 

## EEB, continued from page 2

**Massimo Pigliucci**, Associate Professor

pigliucci@utk.edu

**Susan Riechert**, Professor

sriecher@utk.edu

**Gary Saylor**, Professor

saylor@utk.edu

**Terry Schultz**, Professor

tschultz@utk.edu

**Daniel Simberloff**, Professor

dsimberloff@utk.edu

**Gary Stacey**, Professor

gstacey@utk.edu


**Jake Weltzin**, Assistant Professor

jweltzin@utk.edu

**Steve Wilhelm**, Assistant Professor

wilhelm@utk.edu

**Jason Wolfe**, Assistant Professor

Effective 08/01/01 

## Alumni News

### 1940's

**Herman Forest, Ph.D.** earned his undergraduate degree from Botany in 1942. He received his Ph.D. from Michigan State University in 1948 and went on to pursue a long career of teaching and research. He spent most of his teaching career at SUNY, Geneseo and is now retired and living in Cookeville, Tenn.

### 1960's

**Frank Day, Ph.D.** received his undergraduate degree in Botany in 1969 and is currently Professor of Biological Sciences at Old Dominion University in Norfolk, Va. He was recently elected Vice-President of the Society of Wetland Scientists and will serve as president in 2002.

### 1970's

**Curtis J. Richardson, Ph.D.** completed his graduate work with the department of Ecology, in conjunction with ORNL, in 1972. He is currently the director of the Duke University Wetland Center and serves as chairman of the Division of Environmental Science and Policy.

### 1980's

**Bob Barni** received his undergraduate degree from Botany in 1980. He is now the director of the Denali Institute, a nonprofit educational organization that operates at the Denali National Park and Preserve in Alaska. The Institute seeks to educate visitors on the natural, cultural and political history of the area as well as facilitate migratory bird research.

**Joyce Broyles** earned her masters degree from Microbiology in 1981 and is now a clinical pharmacist for the neonatal intensive care unit at Methodist Healthcare Central Hospital in Memphis, Tenn.

**Tracey (Buntain) Davies** completed her undergraduate degree from the former Systems and Organisms track of Biology in 1989. Her graduate work includes degrees in Toxicology and Law. She is now a biotechnology patent attorney for Vinson and Elkins in Austin, Texas.


**Holly (Sittel) Pichiarella** received her undergraduate degree in Microbiology in 1989. She is now a Certified Industrial Hygienist (CIH) with BWXT, a subcontractor of ORNL. She works to identify and control occupational health hazards.

### 1990's

**Craig Ward Irwin, M.D.** completed his undergraduate degree in Microbiology in 1990. He has finished medical school at UT Memphis and completed residencies in both internal medicine and pediatrics at the University of Michigan. He is now practicing at the Lexington Clinic in Lexington, Ky.

**Mark Scheurer, M.D.** earned his undergraduate degree in Microbiology in 1994. He has completed medical school at UT Memphis and is now a third year resident in the internal medicine and pediatrics program at Duke University. He plans to enter a fellowship program in pediatric cardiology July 2002.

### 2000's

**Bill Thelin** completed his undergraduate degree in BCMB in 2000 and is currently enrolled in a Ph.D. program at the University of North Carolina, Chapel Hill. He is in the department of Cell and Molecular Physiology and is studying the function of scaffolding proteins that cluster ion channels and receptors to form signaling complexes at the apical surface of epithelial cells. 

The University of Tennessee  
Division of Biology  
M303 Walters Life Science Bldg.  
Knoxville TN 37996-0830

NON-PROFIT  
ORG.  
U.S. POSTAGE  
PAID  
PERMIT # 481  
KNOXVILLE TN



# IN VIVO

Newsletter of the University of Tennessee Division of Biology

VOLUME 1, NUMBER 3

AUGUST - SEPTEMBER 2001

## Upcoming Events:

University Studies is sponsoring a collaborative, interdisciplinary undertaking in the lecture/discussion series, "Human/Nature: Self, Society, and the New Biology." University Studies and the Haines-Morris Endowment sponsor the series. **Dr. Massimo Pigliucci, Dr. Gordon Burghardt, and Dr. Neil Greenberg** (EEB) have joined with **Dr. Jonathan Kaplan** and **Dr. David Reidy** (Philosophy) to organize the series. Please watch "News and Events" at the University Studies website for announcements [www.bio.utk.edu/unistudy.nsf](http://www.bio.utk.edu/unistudy.nsf).

## Note:

We still need to hear from you regarding your current career. Even if you are no longer in a biological field, please let us know how your education at UT has benefited you.

We want to use this information to help educate high school students about the value of a degree from the Division.

Please use the attached postage-paid envelop or e-mail [imaples@utk.edu](mailto:imaples@utk.edu).

The University of Tennessee does not discriminate on the basis of race, sex, color, religion, national origin, age, disability, or veteran status in provision of education programs and services or employment opportunities and benefits. This policy extends to both employment by and admission to the University. • The University does not discriminate on the basis of race, sex, or disability in the education programs and activities pursuant to the requirements of Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) of 1990. • Inquiries and charges of violation concerning Title VI, Title IX, Section 504, ADA, the Age Discrimination in Employment Act (ADEA), or any of the other above referenced policies should be directed to the Office of Equity and Diversity; 2110 Terrace Avenue; Knoxville, TN 37996-3560; telephone (865) 974-2498 (TTY available). Requests for accommodation of a disability should be directed to the ADA Coordinator at the Office of Human Resources Management; 600 Henley Street; Knoxville, TN 37996-4125. • PA#R01-1011-01-001-01