

IN VIVO

Newsletter of the University of Tennessee Division of Biology

VOLUME 4, NUMBER 3

WINTER 2005

From the Director Otto J. Schwarz, Ph.D.



A bit belated Seasons Greetings and 2005 New Year to everyone. 2004 ended in flurry of activity within the Division and the University. The

ending of this particular year as well as the onset of the new has brought with it both change and considerable challenge for all. It seems that the byline of today's world is change and here at UTK we are scrambling to keep pace with the world around us as well as within our own ranks.

The year's end has marked the end of an academic era for this University with the official end of the administrative unit of the Department of Botany. The faculty, staff and graduate students have been "redeployed" to two departmental units within the Division.

My new academic home is the Department of Biochemistry, Cellular and Molecular Biology (BCMB). The faculty of the Botany Department was given free choice to disperse to any of the three remaining departmental units of the Division.

Their decisions resulted in approximately a sixty-forty split between Ecology

See DIRECTOR, on page 3

Table of Contents

From the Director	1
Spotlight on BCMB.....	1
From the Head	2
BCMB Faculty	4
Division News	6
Alumni News	7

Bringing the study of cell growth to UT

At the heart of understanding the spread of disease, is research that delves into how cells grow. New Assistant Professor, **Dr. Ana A. Kitazono**, is working to understand how cells replicate in the hope that her research will help understand, prevent, and find a cure for fast-growing diseases like cancer in humans.

For her research, Dr. Kitazono uses

Saccharomyces cerevisiae (simple Baker's yeast), which lives as a single cell and therefore, has a "simple" life cycle that can be used as a model to study how human cells regulate their growth.

Research in yeasts and several other systems have already provided a detailed picture of the mechanisms directing the replication and separation of chromosomes, processes that define the cell cycle.

An important lesson from these studies is that the main features of the cell cycle picture have remained unchanged throughout evolution. For example, all organisms from yeasts to humans rely on the same family of enzymes, the cyclin-dependent kinases (CDKs) to regulate their cell cycle. Dr. Kitazono's research currently focuses on the main CDK in yeast, Cdc28.

Importantly, while several distinct CDKs are required in higher organisms, Cdc28 singly directs the yeast cell cycle making it an extremely useful representative of the CDK family. More specifically,

using a wide variety of genetic and biochemical techniques for her research, Dr. Kitazono is hoping to get further insights into how the process of chromosome separation (mitosis) occurs and is regulated.

Dr. Kitazono received her first degree from the School of Pharmacy and Biochemistry at the Universidad Nacional Mayor de San Marcos in Lima, Peru where she was born and grew up.



She promptly started her career as a pharmacist, but always knew that she wanted to do research. She left her home of Peru to accept a scholarship to pursue graduate studies at the School of Pharmaceutical Sciences at Nagasaki University in Japan.

Although it took her a while to overcome the language barrier, through intensive language classes and the help of professors and fellow students, she said: "Nagasaki

University offered a great learning atmosphere both in classes and in the lab."

Dr. Kitazono completed her postdoctoral training in the U.S. She started at the Albert Einstein College of Medicine in New York City where she worked in the Department of Radiation Oncology. She then changed the focus of her research and moved to Chicago to work with **Dr. Stephen J. Kron** at the University of Chicago in the Department of Molecular Genetics and Cell Biology and Center for Molecular Oncology.

Here, she started working with

See KITAZONO, on page 6



The times they are a changin'

by **Bruce McKee, Ph.D.**



2004 has been a year of growth for the BCMB Department. Most exciting has been the addition of several new faculty members. We have added one

brand-new assistant professor, **Ana Kitazono**, who comes to us from the University of Chicago. Ana's research focuses on how multiplying yeast cells avoid making mistakes in distributing chromosomes to daughter cells. The "checkpoint mechanisms" that yeast cells use to make sure all chromosomes are properly aligned and connected to the spindle before initiating division are important in animal cells as well and their malfunction can be disastrous, leading to cancer, aneuploidy, and other diseases. Ana's research is described in depth elsewhere in this issue.

As of this January 1, the dissolution of the Botany Department is official and BCMB welcomes five former members of the Botany Department: **Otto Schwarz**, who is now serving as the Director of the Division of Biology, **Beth Mullin**, **Les Hickok**, **Albrecht von Arnim** and **Andreas Nebenfuhr**.

These outstanding faculty members greatly strengthen our departmental emphases in cell biology and the molecular plant sciences and bring a wealth of teaching experience. Last but not least, we have recently finalized an agreement with **Gladys Alexandre**, an assistant professor at Georgia State University, who will join us next August. Gladys is also a plant scientist; her research focuses on plant-microbe interactions, and she will also have a minority appointment in the Microbiology Department. These fine plant scientists will join two very productive long-time BCMB faculty members **Dan Roberts** and **Barry Bruce**, to create a strong core research group in plant molecular biology.

An initiative to strengthen plant molecular biology: BCMB has taken this reorganization as an opportunity to renew its commitment to building a first-rate

research and teaching program in plant molecular biology. This is an opportune time to do so as recent advances in plant genetics and genomics, especially of the model plant *Arabidopsis*, have enabled plant systems to "catch up" and in some ways surpass animal model systems for studying basic processes of cell and developmental biology.

Three Initiatives

BCMB has undertaken three new initiatives to further this goal. One is to recruit additional plant molecular biologists. To this end, Albrecht von Arnim is heading a search to recruit an assistant professor and we will be interviewing candidates in February and March. So be on the lookout for seminar announcements! We are also developing a proposal to recruit a distinguished scientist in Plant Genomics – hopefully there will be good news on this front soon.

A second is to consolidate the laboratory spaces of our current plant molecular faculty in the newly renovated Hesler building. Dan Roberts and Barry Bruce will be moving from their current space in Walters to new space in Hesler adjacent to those of their plant colleagues this coming May.

A third initiative is an attempt to rejuvenate an intercollegiate graduate program in plant sciences that will provide an opportunity for plant scientists on the main and Agricultural campuses to train graduate students in both basic and applied aspects of plant molecular biology. If we can work out a stable financial arrangement for this program, we hope to launch it in the next academic year.

Other noteworthy accomplishments of 2004. BCMB underwent a "mid-cycle program review" in early November and received a strong endorsement from the review committee who were particularly supportive of our attempts to focus faculty hiring in two main areas – genetics and structural biology.

Our goal is to build critical masses so that we can be more competitive for program grants and graduate training grants. We also had a very good year with respect to attracting extramural grant funding despite the poor research budgets

of the primary funding agencies.

BCMB is now ranked first within the college of Arts and Sciences in "F&A" funds on research grants – these are the extra funds provided to universities as a percentage of grant awards to help defray costs of supporting research and building research programs. We use our share of these funds for many research-related purposes such as matching for faculty development grants, paying for maintenance contracts on research equipment and support for student and faculty travel to national and international meetings.

We also rank first within the university in an important educational measure – number of B.S. degrees granted; in fact the 81 BCMB majors that graduated in 2003-04 were more than double the B.S. graduates of any other department. We are proud of these and many other contributions of BCMB to the University.

The Future

What will 2005 bring? We are excited about prospects for the coming year. BCMB is sponsoring an exciting seminar series this spring entitled Chromatin Structure and its Role in Nuclear Processes, featuring leaders in the chromatin field from around the nation. We will pursue several initiatives. In addition to those described above, we are joining with colleagues at ORNL in an attempt to build a new Joint Institute of Biological Sciences that will include several joint UT-ORNL faculty and will lead development of biological research in East Tennessee in the new millennium.

We also look forward to the possibility of a more favorable state funding picture. Our new President has gained the support of the Governor in a mission to improve UT's status as a major research university, and there is considerable optimism about the prospects for new state investments in research and scholarship. All of us should be proactive in encouraging our state representatives and senators to support the funding proposal and in helping to educate our administrators about the value of investing in Biology! 

bdmckee@utk.edu

DIRECTOR, from page 1

and Evolutionary Biology (EEB) and BCMB respectively.

The Division received a new member because it will be the new home for the two-

semester freshman course in Botany. The body and soul underpinnings for that course are the result of the dedication of **Dr. Kenneth McFarland**. Ken joins the

Division unit with the soul admonition from his new boss (me) to keep up his excellent work. As a point of interest, Ken does much more than just his intro Botany course efforts. Remember he is the one that rides herd over what are now the Division's greenhouse facilities, the much appreciated, campus Botanical teaching gardens, and the Spring Wild Flower Pilgrimage, just to name a few.

The loss of Botany as a department level academic unit, poses a great challenge to both the faculty and administration of the Division. The faculty must see to it that the academic essentials of Botanical Science do not get lost in the knowledge repertoire offered by this great University. As Director, I will attempt to make sure that academic balance is maintained in the Division's offerings so that the University can continue to serve the needs of the students of our state and nation.

Change of any sort brings opportunity and this is how we are viewing our own environment. This coming year the Division will begin to undertake a self-evaluation of all levels of its academic and research functions. I will propose to the departments that we begin by a thorough evaluation of our undergraduate program.

We have already begun to re-evaluate and, so far, reaffirm our research goals and agenda. With the recent reorganization of our Botanical assets we are exploring the appropriateness of re-inventing a long dormant graduate education effort that would include cross campus intercollegiate participation in a program in Plant Biology. More about this in the next edition of IN VIVO. So, perhaps dear reader, you can begin to see just why the Director has such a great job, never a dull or non-challenging moment, it keeps this senior citizen from napping in the afternoon.

I began this piece by asserting the inevitability of change with all of its opportunities for new challenge and hope for improvement, it also carries with it loss. The Division has lost one of its academic pillars and internationally known researchers, **Dr. Patricia Walne**. My first UTK

Biochemistry, Cellular, and Molecular Biology (BCMB)

M407 Walters Life Sciences Building, Knoxville, TN 37996

(865) 974-5148 Fax (865) 974-6306

<http://web.bio.utk.edu/bcmb>

McKee, Bruce Professor/ Head
bdmckee@utk.edu

Allison, David Research Professor
allisond@utk.edu

Breeden, Melissa Admin. Spec. I
mbreede2@utk.edu

Bruce, Barry Associate Professor
bbuce@utk.edu

Collins, Julia Admin. Sup. Asst. II
julia@utk.edu

Dealwis, Chris Assistant Professor
cdealwis@utk.edu

Fernandez, Elias Asst. Professor
elias.fernandez@utk.edu

Ganguly, Ranjan Professor
rganguly@utk.edu

Guo, Hong Assistant Professor
hguo1@utk.edu

Hall, Jim Associate Professor
jhall1@utk.edu

Handel, Mary Ann Prof. Emeritus
mahandel@utk.edu

Hickok, Les Professor
lhickok@utk.edu

Howell, Liz Professor
lzh@utk.edu

Jain, Nitin Assistant Professor
njain@utk.edu

Jeon, Kwang Professor Emeritus
jeon-k@utk.edu

Joy, David Distinguished Professor
djoy@utk.edu

Kennedy, John Professor
jnkenad@utk.edu

Kitazono, Ana Assistant Professor
akitazon@utk.edu

Klebig, Mitchell Res. Asst. Prof.
klebigml@ornl.gov

Koontz, John Professor
jkoontz@utk.edu

Labrador, Mariano Asst. Professor
Labrador@utk.edu

Liu, Yie Research Asst. Professor
liuy3@ornl.gov

MacCabe, Jeffrey Professor
jamaccab@utk.edu

Mazur, Peter Research Professor
pmazur@utk.edu

McConnell, Tina Sr. Admin. Ser. Asst.
tmconne@utk.edu

Milewski, Sharon Lecturer
samilewski@yahoo.com

Monty, Kenneth Professor Emeritus
kmonty@utk.edu

Mullin, Beth Professor
bmullin@utk.edu

Nebenfuehr, Andreas Asst. Prof.
nebenfuehr@utk.edu

O'Neill, Hugh Res. Asst. Professor
oneillhm@ornl.gov

Park, Jae Assistant Professor
jhpark@utk.edu

Peterson, Cynthia Professor
cynthia_peterson@utk.edu

Pinnaduwage, Purnima Lecturer
ppinnadu@utk.edu

Prosser, Rebecca Assoc. Professor
rprosser@utk.edu

Rinchik, Eugene Res. Professor
rinchikem@ornl.gov

Roberts, Dan Professor
drobert2@utk.edu

Shivers, Alex Professor Emeritus
cshivers@utk.edu

Serpersu, Engin Professor
eserpersu@utk.edu

Trollinger, Jennifer Adm. Sup Asst. III
jtrollin@utk.edu

Venkatachalam, Sundar Asst. Prof.
sundar@utk.edu

von Arnim, Albrecht Assoc. Prof.
vonarnim@utk.edu

Welch, Hugh Professor Emeritus
hwelch@utk.edu

See DIRECTOR, on page 6

Having the best of both worlds

Most people are either left or right-brained. To be both can cause an identity crisis. **Dr. Liz Howell** has had such a crisis in her life, but has come out a well-rounded person living within an interesting melding of art and science.



Dr. Howell with her creation "Tina"

Dr. Howell started in science with an influential chemistry teacher during her high school years in New Jersey. She especially enjoyed an NSF summer research project that began to point her toward a career in science. She received her undergraduate degree in chemistry in 1973 at Muhlenberg College in Allentown, Pennsylvania. She married her husband, **Dave**, in 1975.

She went on Lehigh University in Bethlehem, Pennsylvania and during this time she went to school part time and worked part time as a laboratory technician in the Chemistry Department. The classes she attended ranged from Aquatic Biology, to Science Fiction, to Psychology of Women. She also enjoyed sculpting and other forms of artistic expression.

She needed focus in her life and that came when her P.I. asked her "What do you want to do in ten years?" She knew then that she could not continue to take classes part time, nor did she want to be a laboratory technician forever. She made her decision to become a full time graduate student and received her Ph.D. in 1982.

At the urging of her husband to live somewhere different, she accepted a position as a research scientist at The Agouron

Institute in La Jolla, California. She did not like the traffic problems, but working half a block from the beach helped.

She found the scientific work interesting and she could sit on the beach and watch the gray whales migrate. Her research centered on the enzyme *E. coli* Dihydrofolate Reductase (DHFR). Her interest in DHFR continues today, although on a plasmid encoded R67 DHFR.

In 1988 they decided it was time to move back a little closer to family. It was at that time that Dr. Howell accepted a position at UT. Her

son **Matt** was born here. He is now 16 and is interested in physics.

Dr. Howell continues her work with R67 DHFR, particularly how it relates to antibiotic resistance. She studies its structure and function by making altered forms of the enzyme and observing how these forms function compared to the native form of the protein.



Structural model of the enzyme *E. coli* Dihydrofolate Reductase (DHFR)


She said, "R67 DHFR is an interesting enzyme as it is one of the smallest enzymes known to self-assemble into an active quaternary structure and it possesses 222 symmetry."

"If I were ever to design an enzyme, I wouldn't use symmetry in the design. While the symmetry minimizes expenditure of energy and DNA in encoding the genetic information, it

imposes numerous constraints on binding and catalysis. Because of these constraints, we believe R67 is a good model of a primitive enzyme. R67 DHFR is also interesting as it provides resistance to the antibacterial drug, trimethoprim, making it a potential drug design target."

She currently also serves as a faculty member of the Graduate School of Genome Science and Technology. She is funded by NSF and has two graduate students in her laboratory and is looking for a postdoctoral student.

She still enjoys using the artistic side of her brain. Her office is decorated with various figurative pieces that she either sculpted by hand or on her pottery wheel at home. She also occasionally goes to Arrowmont School of Arts and Crafts in Gatlinburg to take a class on a new technique.

She said, "For a long time I wasn't sure that art and science went together, but as time goes on, I can see that the creative process is the same. Both require a willingness to follow new paths." 

lzh@utk.edu

In Vivo

An alumni newsletter published by the Division of Biology
Otto Schwarz, Director
Laura Maples, Primary Writer/Editor

The University of Tennessee
Division of Biology
M303 Walters Life Science Building
Knoxville, TN 37996-0830
(865) 974-6841 Fax (865) 974-4057
<http://web.bio.utk.edu/Division>

The institution welcomes and honors people of all races, creeds, cultured and sexual orientations, and values intellectual curiosity, pursuit of knowledge, and academic freedom and integrity.

Keeping many irons in the fire



BCMB Professor, **Dr. Engin Serpersu**, was born in Istanbul, Turkey. His first encounter with Americans came during his undergraduate years that he spent at the Middle East Technical University, founded by the Ford Foundation. It was the first campus-style university in Turkey and many of the faculty members were scientists on sabbatical from the US. Dr. Serpersu said, "I was taught physics by NASA engineers, which was impressive to me."

In the 1970's he went from a technical university to a medical school environment. He received his Ph.D. in 1978 at the Hacettepe University in Ankara. There he met and married his wife **Faye**. She was studying to be a pharmacist. At this time he began his work on the membrane enzyme Na-K ATPase.

Deciding to do his post-doctoral work outside of Turkey, Dr. Serpersu applied to the Alexander von Humboldt Foundation and received a fellowship to work at Giessen in Germany in the laboratory of **Dr. Wilhelm Schoner**. When his leave of absence was not extended to cover the fellowship period, he decided to resign from his position at Hacettepe and to seek a new scientific career elsewhere.

He came to America for the first time in 1981 to take a post-doctoral position at Johns Hopkins Medical School. When asked why he did not pursue a career in medicine, he said, "There were already enough medical doctors in our family and chemistry was always my main interest. I had my own laboratory since high school." He was still studying enzymes but the methods had changed to include using electrical stimulation which he used on his own blood samples.

During his second tour at Johns

Hopkins in 1984, he began to use nuclear magnetic resonance (NMR) spectroscopy. When he came to UT he was known as the "NMR guy" because there were no other scientists in the Division who used NMR in biological research. The instruments he used were housed in the Chemistry Department. Dr. Serpersu said, "I was the first biochemist to carry a key to the Chemistry Lab."

In 1989 he came to UT as an Assistant Professor to BCMB. His wife has left pharmacy for the more lucrative world of selling antiques on E-bay. She is one of the top dealers in the area. They have three sons, who are either already attending UT or will be in the near future.

At its core, Dr. Serpersu's research is trying to understand antibiotic resistance as it relates to enzymatic catalysis at the molecular and structural level. More specifically, he is studying the enzymes that attack aminoglycoside antibiotics and render them useless to the patient being treated. He said, "This is one way that antibiotics fail. My research could help design drugs that inhibit this type of enzyme."

The Center

In addition to his research, Dr. Serpersu is Administrator of the Center of Excellence in Structural Biology (CESB) (<http://web.bio.utk.edu/cesb/>). The CESB was created to develop a scientific infrastructure for molecular study within the Division of Biology. He started the CESB in 2001 when he realized that UT was falling behind peer institutions in this area of research.

He said, "I know that the CESB has increased the research potential of our faculty significantly. I can judge that by the reaction of visitors. They are very impressed with our capabilities." The equipment is housed in several buildings on The Hill and is available to any UT, UT Memphis, or ORNL collaborative member.


The CESB began with \$2.7 million in grant money from UT. Dr. Serpersu and his committee dispersed it among the members as seed money for new laboratories and to purchase updated equipment. This seed money enabled

new laboratories to purchase needed supplies and hire scientific and technical personnel, which in turn enabled the faculty to generate more grant money from federal sources.

The CESB has also been successful in bringing in an outside pharmaceutical company. Gryphus Pharmaceuticals from the University of Alabama has joined UT as a member of the center.

Unfortunately, all is not well at the CESB financially. Cost-recovery, in the form of a fraction of the F & A from grants were not allowed (although they were promised originally) for the center and the prospects of continued funding is not bright. Thus, without the promise of more grant money or a mechanism for cost-recovery, the CESB will be forced to close its doors next year.

However, Dr. Serpersu does not dwell on the negative. He has strong collaborations with faculty within BCMB, ORNL, and the UT Chemistry Department. He is a recruiter and coordinator within the Graduate School of Genome Science and Technology. He teaches classes such as biophysical chemistry, advanced molecular biology, and experiential design and analysis. Dr. Serpersu also runs an active laboratory with three post-doctoral fellows, three graduate students, and two undergraduate students.

He has nothing but praise for his department. He said, "BCMB is very healthy. It is one of the top units in the College of Arts and Sciences in terms of grant income level, even though it is not the largest department in terms of number of faculty members." 

eserpersu@utk.edu

A Thank you to our Donors:

John Cate IV, M.D.
Johns Island, South Carolina

Daniel Deana, M.D.
Panama City Beach, Florida

Ernest Shipe, Jr.
Knoxville, Tennessee

Susan and Al Triunfo
Saint Charles, Missouri

DIRECTOR, from page 3

faculty contact was made while a post-doc at the Biology Division, Oak Ridge National Laboratory. My mentor, **Dr. Alan Huber**, then an associate of the Botany Department at UTK introduced me to one of his collaborators, Dr. Walne.

Pat and I worked on a project involving the large scale purification of "eye spot" organelles from the alga *Euglena*. The work became my first post graduate co-publication. Those days as a post-doc, working with Pat and her graduate students has left many fine memories. You will find an article by **Dr. Raymond Holton**, retired Head of the Botany Department describing his recollections of Pat's career further on in this issue of IN VIVO.


I will leave the personal ramblings of this piece with one more bit of news, a change that brings both happiness and well as a measure of loss. This will be the last issue of IN VIVO to be written and edited by **Laura Maples**. Laura is moving onward and upward to a new, nearby position in UT Medical School unit located just across the river from UTK's main campus. I, and all that enjoyed her excellent efforts as Editor and first class associate, will miss her dearly. Best of luck in your new working world adventure.

The body of this IN VIVO issue is focused upon the current happenings within BCMB, lead by the capable hands of **Professor Bruce McKee**. As you may conclude from the roster listed herein, BCMB has grown to be a large diverse academic/research department. With this diversity comes the opportunity for considerable academic and research strength, both of which are readily available to our undergraduate and graduate student population.

I think you will find the three faculty profiles both interesting and stimulating. Take a few minutes to learn more about BCMB and its workings by visiting their web site easily accessed through the main Division site:

<http://web.bio.utk.edu/division>.

For those alumni that sent us some personal tidbits, a special thank you.

2005. Here we come.... 

Peace


Otto

oschwarz@utk.edu

KITAZONO, from page 1

S. cerevisiae and learned from the very basics to the most sophisticated tools available to study the cell cycle in yeasts and other organisms. She also benefited from the presence of a very active, talented and supportive group of investigators who all studied the cell cycle in different model systems.

She came to UT in August of 2004. It is her first professorship and she is settling in to her new surroundings. Now starts the process of renovating her laboratory space and interviewing students and technicians. She is also busy writing grant proposals for NIH and NSF funding.

She is very happy in BCMB. She said, "It is a great department with enthusiastic and smart students, and superb members both at the personal and scientific levels who are seriously dedicated to both their research and teaching." 

akitazon@utk.edu

A major award

Johanna Rinta-Kanto, a doctoral candidate in the Department of Microbiology, has been awarded the Helsingin Sanomat Centennial Foundation Scholarship for her research into the development of molecular tools to be used as rapid diagnostics for toxic algal blooms.

A native of Finland, Ms. Rinta-Kanto has been studying at the UT for the last two years. She will use the \$53,000 to continue her studies of the toxic cyanobacterium *Microcystis aeruginosa*. A cosmopolitan organism of global importance, this cyanobacterium has gained significant attention in both the United States and Canada due to the reoccurring toxic blooms it has caused in Lake Erie during the past 10 years.

Rinta-Kanto's work with Associate Professor **Steven Wilhelm** is part of a \$3,500,000 multi-institutional award from the National Oceanographic and Atmospheric Administration's MERHAB program. More details are available at Dr. Wilhelm's website:

<http://web.bio.utk.edu/wilhelm>.

Saying "good-bye"
by Ray Holton, Ph.D.

Long-time distinguished faculty member, **Dr. Patricia L. Walne**, died on October 21, 2004 at her residence in Bloomington, Indiana after a long illness. Dr. Walne served in the Department of

Botany from 1966 until her retirement in 2000 as a Benwood/UT Distinguished Professor. She was born in Newark, New Jersey on November 27, 1932.

Dr. Walne was the one of the first biologists at UT to use the electron microscope to investigate the ultrastructure of plants and in particular, the algae. Her special organisms were the euglenoid algae which she, her students, and collaborators around the world studied not only structure and cytology, but natural history, photoreceptor structure and function, and their evolution and phylogeny.

Her education background included a B.S. at Hanover College in Indiana in 1954 (magna cum laude), M.S. at Indiana University in 1959, a summer at the Marine Biology Laboratory, Woods Hole, Mass. (1963) and Ph.D. at the University of Texas in 1965 followed by a post-doctoral year there.

Her academic career was spent at the UT except for collaborative visiting research tenures at universities in Denmark, Poland, Italy and the Czech Republic. It was a year in Denmark during her graduate studies that led to her great interest in international education and cooperation which lasted throughout her career. She contributed significantly to UT international educational efforts and in her latter years was particularly involved in aiding her scientific interests in eastern European countries.

She donated her extensive collection of phycological journals and reprints to a Polish colleague at her retirement. She had an exceptional ability to learn foreign languages and for example was fluent enough in Danish to converse with our late **Dean Alvin Nielsen**, whose parents were immigrants from Den-

See WALNE, on page 7

WALNE, from page 6


mark. If she were in a meeting and wanted to take notes for herself alone, she would write them in Danish.

Dr. Walne's service to UT was recognized by her appointment as the Benwood Distinguished Professor in 1985, Macebearer at graduations in 1982-83, an elected member of the Science Alliance (1984-96), and recipient of Chancellor's Award for exceptional service to the University in 1987.

For many years she was deeply involved in the leadership, educational program, and development of the Electron Microscope Facility in Biology. She served as president of the UT Chapter of Sigma Xi, the scientific research society. Her service to her profession was extensive including various editorial and official responsibilities in phycological societies culminating in serving as president of the Physiological Society of America in 1974.

Dr. Walne's research resulted in nearly 70 publications and was supported primarily by grants from the NSF. The Fulbright-Hays Inter-Country exchange program, as well as UT, underwrote costs of many of her foreign visits which included not only stays in universities but giving lectures in Germany, Slovakia, and Turkey as well as those countries mentioned above. While her research and that of her students was focused on euglenoid algae, it did include diverse subjects such as airborne algae, cyanobacterial viruses, and viable algae in house dust.

Some 15 Ph.D. and six M.S. students did their research under Dr. Walne's direction. She was well-known for the intensity and care with which she oversaw her students' research and dissertation and thesis composition. Her graduate course in phycological was legendary in its academic rigor including final exams which were both comprehensive and thought-provoking.

Though short in stature Dr. Walne stood tall in her academic accomplishments and will be remembered warmly by her former students and colleagues at UT and around the world. 

Alumni News

William Banks sent in the following story: "Master's thesis published! Circa the Ides of March, 1953, my master's thesis, *Ethnobotany of the Cherokee Indian*, was accepted and my Master's committee, including my advisor the late **Dr. A. J. (Jack) Sharp**, certified that I had met requirements for a Master of Science degree in Botany.

Subsequently I made several efforts to have the thesis published without success. Almost fifty years after I completed the M.S., a part-Cherokee **Ila Hatter** somehow acquired a copy of the thesis, and telephoned me to inquire if I would be interested in having it published!

I said 'yes,' of course, and in late summer 2004 the Great Smoky Mountains Association of Gatlinburg published the thesis under the name *Plants of the Cherokee*. As it happens, young Indians these days have an interest in their heritage, an interest dormant until the 1990s.

In large measure, my thesis documents how the Cherokees used native plants for medicines. To glean this information I interviewed a number of older Cherokees in 1952, using plant specimens I had borrowed from the University of Tennessee Herbarium.

I am delighted with the publication of my thesis, a copy of which resides in UT's Botany office. The thesis was edited by **Steve Kemp** with magnificent design by **Joey Heath**. If you are interested in acquiring a copy you may contact the Great Smoky Mountains Association at (865) 436-7318.

As for me I served army time and taught in high school on leaving Knoxville. For twenty-five years I taught in the School of Education at the University of Louisville, retiring in 1993.

I now enjoy life with my wife **Bettie** in the eastern part of Louisville. I would appreciate hearing from old friends at UT — they can reach me through my e-mail: Wban5@aol.com."

John C. Cate, IV, M.D. (Zoology 1967) is now Professor Emeritus with the Department of Pathology and Laboratory Medicine and past Director of Laboratory Medicine at the Medical University of South Carolina, Charleston. He

said, "I have 2 grandchildren in Nashville. I received a great education at UT in the Department of Zoology. It made me very motivated to go to medical school."

Susan Triunfo (Microbiology 1975) received her certification in medical technology and has worked in hospital and research laboratories as well as provided technical support for Coulter blood analyzers. Her husband, **Al Triunfo** (Cell Biology 1975), has worked in the pharmaceutical industry in sales management for over 25 years. He and Susan live in Saint Charles, Missouri and have two grown daughters **Christy** (UVA in Chemical Engineering) and **Jackie** (UGA in Elementary Education).

Daniel Deana, M.D. (Microbiology 1984) is a physician practicing as part of a surgical and clinical pathology group. He lives in Panama City Beach, Florida with his wife **Misty** and twin sons **Anthony** and **Roman**.

Angus Dawe, Ph.D. (through the old CMDB program in 1996 with **Dr. Jeff Becker**) has recently moved to take the position of Assistant Professor in the Biology Department at New Mexico State University in Las Cruces.

Previously, Angus had been a Postdoctoral Fellow at the Robert Wood Johnson Medical School in New Jersey (1996-1999) and Senior Scientist at the University of Maryland Biotechnology Institute's Center for Biosystems Research (2000-2004).

Angus moved to New Mexico with his wife, **Tonia Lane** (MS, Biochemistry in 1997 with **Dr. Liz Howell**). They were married in 1998 and Tonia has worked for SmithKline Beecham in King of Prussia, PA, (1997-2000) followed by IGEN International (now BioVeris Corp.) in Gaithersburg, MD since graduating from UTK.

Tonia is now working part-time as a lab manager for another member of the biology faculty at NMSU as well as assisting Angus with setting up his lab. They have a daughter, **Fiona**, who was born in August 2003.



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

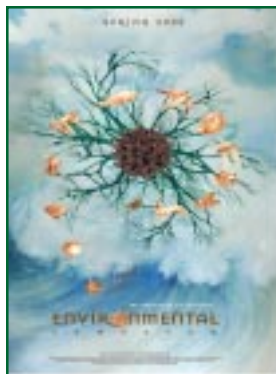
IN VIVO

Newsletter of the University of Tennessee Division of Biology

VOLUME 4, NUMBER 3

WINTER 2005

Environmental Semester



This is a campus-wide, cross-disciplinary collaborative effort to enlarge and enhance awareness of the environment as it influences and is influenced by every discipline.

Organized by **Dr. Neil Greenberg** of Ecology and Evolutionary Biology and **Dr. Mary English** of the Energy, Environment and Resources Center, this Spring semester will offer various panel discussions, guest speakers, exhibits, demonstrations, and performances. It will also involve almost 200 courses from nearly 40 disciplines on campus.

There will be more information in the next *In Vivo* newsletter. Until then, please see the website <http://environmentalsemester.utk.edu> for a calendar of events and a listing of the faculty and departments that are involved in this effort.

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#R01-1011-01-001-05