



# Focal Points

the College of Arts & Sciences  
Tennessee Technological University

Vol. 4 NO. 1

A Newsletter Supported by the Terry Martin Stonecipher Fund

January 1999

## DEAN'S MESSAGE

### *Seven Signs*

"We rise to great heights by a winding staircase"

—Francis Bacon

Sometimes we lose sight of our progress. As Tennessee Tech awaits relief from the budgetary woes that afflict all of Tennessee higher education, there are, fortunately, signs of continuing improvement in the College of Arts and Sciences.

- The personnel front is brightening. Several departments brought in new faculty members last year, and there are vacancies to be filled this year as well. We count on the fresh skills, perspectives, and enthusiasm of these new colleagues to take us confidently into the next century.

- We have been assigned a development officer to lead our first-ever capital campaign, which should get officially under way soon. Ms. Alice Camuti comes to us from a successful career in marketing and public relations, most recently for Citizens Communications. She is already making a difference in our understanding of how to prepare for a major fund-raising effort.

- The dramatically increased student technology access fee (from \$15.00 to \$100.00 per student per semester) is already reversing the trend toward deterioration of our instructional technology. Added to last year's development of new computer labs in Sociology/Philosophy and English, the computer labs currently being built in Biology, Chemistry, and Physics significantly increase our capabilities. A recent meeting of the campus-wide technology planning committee has just approved new or upgraded labs for Computer Science, Foreign Languages, and Mathematics, as well.

- Realizing that all this new computing power will require additional support, we have arranged for a new computer technician to be hired and dedicated to this college. He or she should come on board this winter.

- Our scholarship funds are growing. The Angelo and Jennette Volpe endowment has matured, and its scholarships will increase recruitment strength in Mathematics and the new World Cultures and Business program. The Lillie Goad Stonecipher endowment also reached maturity, and its proceeds will enable us to recruit top-notch competitors for our Mock-Trial Team. This team attracts majors in almost any field of study.

- The new General Education Fund has been housed in Arts and Sciences, effective this year, which puts us at the center of "Center Stage," the exciting series of fine arts and multi-cultural events designed to raise the level of our students' cultural awareness.

- There are abundant signs of good health in our faculty, who continue to win prestigious awards for teaching (e.g., Brian O'Connor), research (e.g., Robert Glinski), and service (e.g., Jeff Roberts), and who demonstrate an unflagging determination to make their achievements, with Tennessee Tech's name attached, visible through refereed publications (over 90 pieces last year) and presentations at regional, state, national, and international meetings (over 130 last year).

If we can do all this and more with slim resources, imagine how far we can go if the state's support for higher education increases in the next few years. The College is poised for a leadership role.

--Jack Armistead, Dean

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## Biology

The new Ph.D. program in Environmental Sciences with emphases in Biology and Chemistry has now been implemented, and the first students are now taking classes and conducting research. This program takes a cross-disciplinary approach, and students are required to complete coursework in environmental agriculture, chemistry, geology, and sociology, in addition to specialized coursework in their area of emphasis. They must also design and conduct an original research project on a significant environmental issue and write a dissertation concerning their results.

Three Ph.D. students are now in the Biology program with a fourth scheduled to begin in January 1999. Doug Wimberly is studying environmental pathogens and health related risks; his advisor is Dr. Sharon Berk. Steve Winesett is studying the effects of bridge construction on aquatic invertebrate communities in streams throughout Tennessee, and Doug Wymer is studying predation on aquatic invertebrates by reintroduced brook trout in the Great Smoky Mountains National Park. Dr. Brad Cook is the advisor of both Steve and Doug. Chanson Boman will study some aspect of environmental microbiology, and he will be advised by Dr. Susan Goss and Dr. John Gunderson. These students have provided a new dimension to our graduate program, and their advanced training and previous research experience have already proven useful in helping other students and serving as guest lecturers.

Implementation of a new program is far more involved than we imagined. Policies had to be established, new courses had to be designed, and an extensive effort to make the new program visible was initiated. Dr. Mick Harvey and Dr. Dan Combs served as the initial representatives of the Biology Department on the Ph.D. Executive Committee. Dr. Brad Cook has now replaced Mick, and he is looking forward to the work involved in helping the Ph.D. program flourish.

The environmental research emphasis of many faculty members in the Biology Department provides base support for the Ph.D. program. A high percentage of the 40+ M.S. students in the department are conducting environmental research, and funds for most of these projects are provided by environmental agencies and organizations. Our associations with the Water Center and Cooperative Fishery Unit provide for a complete package of opportunities at TTU.

Concerning recent changes in faculty and staff, we are still saddened by the untimely passing (March 1997) of Helen Cross, the departmental secretary for 27 years. A memorial garden has been built on the west side of Pennebaker Hall, and faculty members and students have spent hours planting and caring for ornamental shrubs and flowering plants in Helen's honor. Luckily, we have two excellent secretaries, Phyllis Smith and Jennifer Carless, who have been able to keep our department running.

As for other changes, Dr. Mick Harvey stepped down as chairman after serving in that capacity for 13 years, and he is actively pursuing teaching and research interests. Dr. Dan Combs is serving as interim

chairman. Dr. Jim Layzer is now the official leader of the Cooperative Fishery Research Unit after serving as acting leader for several years.

Dr. S. K. Ballal has received a prestigious Fulbright assignment, and he will be in India during Spring 1999. His primary responsibility will be to provide advanced cell biology lectures to graduate students. He is also scheduled as a guest speaker in Austria, the Slovak Republic, and the Czech Republic during his return trip from the host country. In recent years, Dr. John Harris and Dr. Sharon Berk were on Fulbright assignments to India and Australia, respectively.

--Dan Combs, Interim Chairman

## Chemistry

The Chemistry Department is hard at work implementing new instructional technologies to reinforce traditional laboratory and lecture modes. A computer laboratory of 18 PC's funded by a successful NSF Instructional and Laboratory Improvement Grant will integrate computational methods across the chemistry curriculum. We are making expanded use of the World Wide Web in chemistry instruction, and thanks to a new lab modernization fund started by alums, calculator-based laboratory equipment is being integrated into revamped freshmen labs by Dr. Ed Lisic. Several faculty have been using interactive TV to teach TVA employees at their home sites via distance learning.

Despite their busy teaching schedules and many service activities, faculty still manage to do award-winning research involving undergraduates and graduate students. Six undergraduates presented papers at the national ACS meeting in Dallas. Professor Robert Glinski won the 1998 Sigma Xi Faculty Research Award from the TTU Chapter based on his outstanding recent paper published in the internationally prestigious *Astrophysical Journal*. His research involves examination of spectra of molecules in distant celestial objects photographed by the Hubble Space Telescope.

Faculty and students continue to be active in service and outreach to the Upper Cumberland region, presenting over a dozen Magic Shows at area schools, hosting a Chemistry Olympiad on campus for high school students, and offering a laboratory experience for a county high school that has no labs of its own.

The past year saw a number of staff transitions in the Department of Chemistry. Dr. Scott Northrup became the chair, and Dr. Tye Barber was hired as a new assistant professor of analytical/environmental chemistry to bolster the new Ph.D. program in Environmental Sciences. This program, under the directorship of Dr. Dale Ensor, is only in its second year, and already has a bumper crop of students.

--Scott Northrup, Chairman

## Computer Science

### TTU Programmers Win Again in Cookeville

**O**n Saturday, November 7, 1998, two teams of Tennessee Tech Computer Science students competed in the ACM International Collegiate Programming Contest, sponsored by IBM. They didn't have to travel far to the contest, because Multi Computer Products in Cookeville generously provided space for the



competition for the second consecutive year. Also participating at the Cookeville site were two teams from Belmont University in Nashville, two teams from Middle Tennessee State University, and one team from Western Kentucky University. The teams simultaneously competed against other teams from Tennessee, Kentucky, Illinois, Missouri, and Arkansas for a chance to participate at the world competition in Eindhoven, The Netherlands, next April. The TTU teams won first place and third place awards at the Cookeville site. The Western Kentucky team won the second place award. The first TTU team and the Western Kentucky team placed in the top third of the more than 90 teams in the Mid-Central region, with the second TTU team closely following. Tennessee Tech continues to be the only Tennessee host for the competition in recent memory. Additional information about the Mid-Central regional competition is located at <http://csc.smsu.edu/~mcpc/> on the World-Wide Web.

In the contest, each team has only five hours to solve as many programming problems as it can.

The team that successfully completes the most programs in the allotted time and passes all the judges' tests wins. In the event of a tie, the team that completed the programs in the shortest amount of time wins.

Joe Cherry, Thad Scalf, and Benji York formed the first-place TTU team. Benji York, a graduating senior, is a programming contest veteran, representing TTU for four years. Joe Cherry and Thad Scalf participated in the contest for the first time this year, as did the members of the third-place TTU team, Nick Johnson, James Lafever, and Jeffrey Rich.

In the past, teams from Tennessee Tech have earned their place among other winning teams in the region. In 1990, a Tennessee Tech team placed first in the Southeast region and competed in the national finals. In 1994, 1995, and 1996, teams from Tennessee Tech competed to win a place among the top three local finalists. A team from TTU won locally and placed very high at the regional level in 1997.

"The students must think and work fast, and they must cooperate with their teammates," said Martha Kosa, advisor for the programming teams. "A five-hour deadline is one of the shortest deadlines they will ever have to meet. They will see similar challenges in the workplace, although they will be working on larger problems and in larger groups. Previous participants in the contest view the contest as a rewarding experience."

Planning and organizing the contest at Tennessee Tech were Dr. Kosa, faculty coordinator; Mr. Eric Brown, systems administrator; and Ms. Kathryn Choate, department secretary. Mr. Charles Fisher and Dr.

Srini Ramaswamy served as judges for the contest along with faculty members from the other participating schools. Mr. Terry Dykeman and Mr. Jeff Steward handled the local arrangements at Multi Computer Products.

--Dr. Martha Kosa, Assistant Professor

## English

Lately the English Department has been focusing its attention on the curricula of two of its degree programs.

In the fall of 1998, the Technical Communication Program changed its name to the Professional Communication Program, a name more in keeping with current trends in the discipline. But more has been changed than just the name. The program now offers two concentrations, one in Scientific and Technical Writing and one in Public Service Communication. The curriculum of the Scientific and Technical Writing Concentration is similar to the curriculum previously offered in the Technical Communication Program. The curriculum of the Public Service Communication Concentration breaks new ground in preparing graduates to work in the public service sector. Both concentrations continue to provide the internship experience in which students work in a business, industrial, or institutional communications setting. Both concentrations feature a new structure: the programs begin with an introductory course which provides



an overview of skills and principles related to written and oral communication and conclude with a capstone course which focuses on the integration of major concepts of the discipline. Additionally, both concentrations provide practical introductory experience in various technologies used in the discipline as students work with professionals in their real-life work settings.

A Certificate of Completion/Minor in the Professional Communication Program was also instituted. This program is designed to augment other degree programs by providing graduates with skills which will make them more marketable as they look for employment.

The Bachelor of Arts Program in English is also undergoing a rethinking. The outside reviewer who participated in the department's Five-Year Review recommended that the faculty consider a track approach which would offer several options under the umbrella of the B.A. Program. For the past year a committee of the faculty who teach in the B.A. Program has been considering the possibilities and tackling the complications which they present. The committee recently presented a proposal to the faculty which reorganizes the program into two approaches, one concentrating on literature and one concentrating on writing. Students taking both programs would take a common core of courses. Beyond that, the committee suggested reorganizing the program's courses into seven groups, each focusing on a subdivision of the discipline. All students in the program would take at least one course from each of the seven groups. Students would then complete their programs by taking at least one additional course from each of the groups which correspond to their

area of specialization. The B.A. Program faculty approved the new structure in principle and has now formed seven subcommittees, each of which will recommend a restructuring of the courses in its area. The process is intended to be completed in the spring semester of 1999.

--Bob Bode, Chairperson

## Foreign Languages

The Department of Foreign Languages is pleased to welcome Dr. Marketta Laurila, Assistant Professor of Spanish (Ph.D., University of Wisconsin). Dr. Laurila has taught all levels of Spanish, has authored the textual material for computer software in Spanish, and has additional expertise in Business Spanish and in Latin American studies. At the same time we have been fortunate to have Dr. Robert Jones return to the department for Fall Semester on the post-retirement plan. We hope to have him back during Fall Semester 1999 as well before he actually retires.



The World Cultures and Business (WCB) major had its official beginning this semester with 15 majors. A few of these are foreign-language majors who plan to complete two degrees. There are at least a dozen other students in basic business who are considering the new major.

In conjunction with the new program, the first student is in the process of being placed on an internship for Spring Semester: Ania Barciak, a Spanish and WCB major,

who is fluent in Polish, German, and French, as well as in English and Spanish, will be doing her internship with Tutco, Inc., in Cookeville, which is a British-owned company that manufactures heating components and has markets in a number of countries.

With four students expected to graduate this semester and six to eight more in Spring 1999, the department will have its largest graduating class in its history. Several of these students already have degrees in other disciplines and have returned for a degree in a foreign language.

Last Spring a group of engineering students brought us a proposal for a program in international engineering. As they conceived the program, essentially modeled after one at the University of Rhode Island, the student would complete one degree in an engineering discipline and a second degree in French, German, or Spanish. Although there are several details to be worked out before such an arrangement could be formally approved and advertised as a program, several students have already begun work on the two-degree program. With engineering being truly international, the students have recognized that fluency in another language will help them greatly in finding a good job.

--Phillip Campana, Chairperson

## History



If You're Looking for Tofu, You've  
Come To the Wrong Place  
Or  
Following an A&E Crew Across the  
Upper Cumberland

I received a phone call back in March that set the ball rolling. "Is this Michael Birdwell?" the caller asked.

"Yes," I replied.

"This is Luke Ellis of Hearst Actuality Productions in Los Angeles, and we're going to do a biography of Alvin York for the Arts and Entertainment Network. I was told that I needed to speak with you."

"Yeah, right," I said with obvious annoyance. "Whaddya want, Gwilt (as in Steve Gwilt who is prone to play practical jokes on his friends)?"

"Excuse me?"

"Is this Dave Johnson?" I asked.

"No," the flustered voice sputtered on the other end of the line. "I'm Luke Ellis, a line producer with A&E."

At that point I promptly slammed the phone down into its cradle and continued my work. The phone rang again. "This is Luke Ellis of Hearst Actuality Productions. I need to speak with Michael Birdwell."

After saying something rather rude, I again hung up the phone. The phone rang again. This time I did not pick it up, but let the answering service field it. Later in the day I checked my messages. "Dr. Birdwell, this is no joke. I AM Luke Ellis, working with A&E, and we intend to do a biography of Alvin York. I was told, by three separate sources, that you are the person I HAVE to talk to. Those who told me were the head of the State Library

and Archives, Edwin Gleaves; the head of the Tennessee Historical Commission, Herbert Harper, and a member of the York family, Andrew York. PLEASE return my call at (818) 377-\*\*\*\*."

So began my odyssey with the A&E network. I was off to a stellar start. Somewhat sheepishly, I dialed the number and was greeted by a lilting female voice, cooing down the fiber optic cable, "Hearst Actuality, how may I help you." I asked for Luke Ellis and when he came on the line, I apologized profusely "Don't worry about it," he pardoned me graciously "Happens all the time. You call people and tell them you're with a production company in Los Angeles and want to talk. Why would anyone believe that?"

Between March and May I put together copies of voluminous unpublished and rare information concerning Sgt. York, mailing them out to Ellis with regularity. In late April he called to inform me that a director had been signed, Joanne Fish. At that time she was working for TNN in Nashville, and though actually only a "squatter" in Tennessee, she was, they thought, right for the job. She was, however, in the process of moving back to L.A. Meanwhile, I was making my own



Alvin C. York  
by: O. D. Abston

plans to go to California, and Luke set up a meeting with me and the production crew as soon as spring semester ended. Two weeks before I left for the coast, Joanne came to Tech to visit and plot strategy. I tried to help her decide who to interview and who to avoid, and what questions to finesse. A very pleasant and professional woman, Joanne was also a lacto-vegetarian. The next week we trekked off to York country so she could meet a few people and start lining up interviews.

As I headed quixotically to L.A., riding across country on DAMTRAK, Joanne was making the same journey driving a U-Haul, moving back to her California home. After finishing up the research at Warner Bros. on my forthcoming book, I went to the Hearst offices in Sherman Oaks. I met Luke Ellis, who looked too young to be a producer, Barry Evans, the head of research, and the producer/editor of the York program, Bob Petrella. We shared information and set the date to begin production in early June.



The director, Joanne Fish, and O. D. Abston

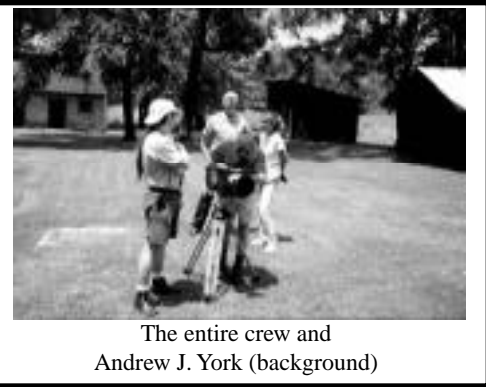
When I returned to Tennessee I scoured hundreds of images of York and his family for use in the production and arranged interviews for the crew. When filming began, I was to be the third person interviewed. They first interviewed York's daughter Betsy Ross York Lowry and her husband, Howard Lowry, in Bowling

Green, Kentucky, before coming to Jamestown to interview me. They set up the camera and equipment in the York Institute library for my date with destiny. After an hour of tinkering, I was told where to sit and we started rolling. Joanne acted as interviewer and director, and began her questioning. No sooner had I begun to answer her first query than she shouted "CUT!"

Nonplused, I wondered what I'd done wrong. "Don't look at me," she said. "Look at the camera." I tried to collect myself, listen to the question coming from my right and look into the cyclops eye of the camera to the left. We started again. I sputtered out an answer to her question again, and no sooner had the first sentence passed my lips before she shouted, "Cut! Powder. He's too shiny." One of the crew members, a fascinating immigrant from New Zealand, bounded over and began rubbing pancake makeup on my forehead.

We started again. "CUT!" So far I hadn't finished a sentence. What was it this time? Joanne looked at me rather sternly. "Okay. Hold your shoulders back. Chin up. Higher. Higher. Good. Now turn your head to the left. Hold it! Don't talk with your hands! Now look relaxed and say what you just said exactly how you said it."

The interview took place over the course of several hours, and I'll be on screen for less than six minutes in the final product. By that time it was late afternoon and we were all exhausted and hungry, but we had two more interviews scheduled for the day. Before heading to Pall Mall, we went to Dino's for lunch. It was at that point I knew trouble lay ahead. Everything on the menu seemed covered with meat sauce,



The entire crew and Andrew J. York (background)

even the eggplant Parmesan. As a lacto-veg, Joanne had almost no options. She ate a salad while the rest of us scarfed down stromboli, lasagna, and cannelloni.

With Joanne's stomach growling, we headed to Pall Mall. On the way she yearned for tofu and soba noodles. She craved California rolls with plenty of wasabi. Why, she wondered out loud, "isn't there a decent place to get hot braised tofu around here?" Talk like that, I worried, would certainly scare the Yorks.

We arrived in Pall Mall and shot exteriors and interiors of the York home and environs. Later the crew set up shop in Andrew Jackson Yorks's home and interviewed Andrew and his brother George Edward Buxton York. After hours of questions and conversation, all of us—Yorks, crew, and a few hangers on—headed to Star Point for catfish. Joanne perked up with the mention of food. To a lacto-veg fish was okay. The group commandeered the largest table at the restaurant just before the kitchen closed. We all ordered the catfish dinner. When the fish arrived Joanne looked crestfallen. It was FRIED. I don't know what she expected. Broiled catfish? Poached catfish?

The next two days were spent shooting scenery and cutaways, and finishing the interviews, including

that of O.D. Abston, probably the oldest living friend of York. At ninety-four, Cas Walker's favorite sign painter had spent lots of time with York in the 1930s and painted a number of portraits of York over the years. A talented artist, Abston continues to paint, primarily biblical allegories. At the York home in Pall Mall, four paintings are currently on display. After three days of hectic filming, the crew went its separate ways and Joanne headed back to Los Angeles to edit the rough footage. In the meantime, I shot more stills for her and ran down more information. By July 1st the rough cut was assembled. Joseph Campanella provided the voice-over narration, and the music track was laid in. On August 15th the episode was completed. As of yet, no firm air date has been established and I haven't seen the finished version. Bob Petrella calls periodically to give me an update, while the York family and I anxiously wait to see the result of our labors.

--Dr. Michael Birdwell, Assistant Professor

## Mathematics

Dear Alumni and Friends:

Wishes, expectations, and hopes always accompany the appointment of a new chair in any department. After an extensive search last spring, I was offered the chair position in the Mathematics Department which I assumed with a great deal of enthusiasm last July.

Dr. Alice Mason, after 12 years in the chair seat, stepped



down from the position and resumed full-time teaching and research.

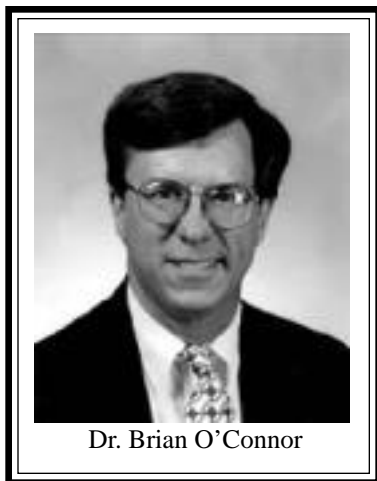
Let me take this opportunity to speak to you about goals and plans I have begun developing with my colleagues as well as my own goals as the mathematics chair. First of all, I must say that I plan to build on the stability that Dr. Mason has introduced to the department through the years as its chair. By this I mean offering faculty an opportunity and support for many undertakings they had communicated to me when I was interviewed last spring. At that time I became very much impressed with the high level of energy and the multitude of ideas that many of the mathematics faculty had.

These ideas were multifaceted. They had to do with improving and increasing collaboration and communication with other departments, with better and stepped-up recruitment efforts both at the undergraduate and graduate levels, with involving students in mathematics competitions, with resurrecting our Mathematics Club, with taking a hard look at our curriculum and making revisions where needed, with getting the Dolzycki Graduate Scholarship endowed, and with improving and increasing contacts with local middle schools and high schools, other mathematics departments, and alumni.

We have taken steps in all of these areas. For the first time ever we have our own program brochure that we will be mailing out to high schools. We have attended and will be attending recruitment trips. We are working on a graduate brochure and graduate poster. Our curriculum committee has been busy with program revisions and modifications. Dr. Mills, our Mathematics Club Advisor, has already brought several

excellent speakers to our Mathematics Club, some of them alumni of this department. We have been discussing curricular matters with engineering departments. Our students took part in a mathematical contest at the end of October. One of the undergraduate scholarships established by President and Mrs. Volpe has been dedicated to Mathematics, which will help us attract students to study mathematics at Tennessee Tech.

As chair of a department offering a graduate program, I felt we needed to have regular mathematics seminars for graduate students, faculty, and guest mathematicians. One of our visiting faculty, Professor Pertti Lounesto from Helsinki University of Technology, Helsinki, Finland, has been presenting a seminar in Clifford algebras and applications in physics and engineering. Professor Annie Selden has organized a seminar on mathematics education issues at the college level. Professors Gutek, Breen, Norden, and Savage are regular presenters at the topology and algebra seminars. Professor Mike Breen has organized a graduate seminar where faculty and graduate students present their research and where graduate students prepare for teaching undergraduate classes. We are in the process of organizing a joint interdisciplinary seminar with computer science and computer engineering. I am working on introducing a *Technical Report* series for faculty and graduate students that will give us an internal publication series. My intention is to exchange these reports with other mathematics departments in this country and abroad. Finally, I am very proud to report that Dr. Brian O'Connor was honored with an Outstanding Faculty Award in Teaching for the 1997-98 academic year.



Dr. Brian O'Connor

Our major task for this academic year is to fill three tenure-track positions beginning in fall 1999. We have received approval to advertise three tenure-track positions in applied mathematics and statistics, and the search process has begun. Another major goal is recruitment. We will be looking for graduate and undergraduate students in this country and abroad. For the first time in many years we will have our graduate program listed in *Assistantships and Fellowships in the Mathematical Sciences* published by AMS. Through personal faculty contacts we intend to attract excellent visiting faculty for the next year in addition to the three tenure-track individuals. Finally, we are working on refurbishing our faculty lounge to provide a pleasant place to meet and socialize.

In summary, we have been busy working on improving the faculty working environment and equipment, on improving our curriculum, on providing attractive extra-curricular activities for our students, on bringing excellent guest speakers, on making the Tennessee Tech Mathematics Department better known in this country and abroad, and on personal and professional development of our faculty.

If any of you would like to visit us, help us improve our major, offer guidance to what the outside world expects from our students, or give a talk at a Mathematics Club meeting, you are very welcome to do so. If you would like to help us with endowing the Dolzycki Graduate Scholarship or make a contribution to any of our other scholarship funds, your assistance will be appreciated.

--Rafal Ablamowicz, Chairperson

## Physics

A new computer lab will be coming to the Physics Department sometime soon. This lab will be used initially for the Physics 131 sections using the Constructing Physics Understanding (CPU) pedagogy developed at San Diego State University. TTU is one of 24 institutions across the country selected to participate in this project.

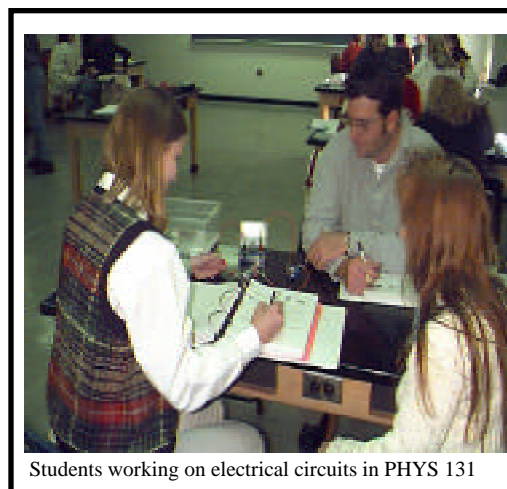


Dr. Steve Robinson is the physics representative to TTU's team, along with Dr. Maggie Phelps of Curriculum and Instruction, Ms. Barbara Huddleston of Cookeville High School, and Mr. Steve Glover of Mt. Juliet High School. They have attended workshops in San Diego the last three summers to work with the project coordinators, and Dr. Robinson has been teaching several sections of the Physics 131 course using these concepts for the past two years. What CPU tries to do is address in a hands-on environment some common misconceptions that students bring to their physics class. The students are

given a situation and are required to make a prediction about what will happen before testing their prediction by performing the experiment. Since the experiments are carefully chosen to address misconceptions that are known to be common, the students are often forced to face the issue that their beliefs about the nature of the world may be wrong. The students work in teams to encourage discussion as the experiment is done, and the professor moderates class discussions several times each period. Journal entries are required to help students focus on their development of ideas.

While the curriculum is designed to be computer-oriented, our implementation of it so far has not used that feature. The new lab will contain 10 student stations and one instructor station, each with various computerized probes. Students will not only use the computers to help collect some of their data but will also keep journals of their observations and run simulations of processes that are difficult to study in real time. This development represents the first step in a plan to bring a similar focus and technological approach to all introductory physics laboratory courses.

--John Shriner, Chairperson



Students working on electrical circuits in PHYS 131

# Political Science

Notes on a visit to Cuba,  
Summer 1998

Cuba's political system, society, and economy have undergone great changes during the past nine years. In response to losing 75% of its trading markets with the collapse of the Socialist Bloc in 1989-1991, the country has opened to foreign investment and trade, particularly with Mexico, Canada, and Spain. These changes have also produced massive social changes in Cuba. Among these are the division between Cubans in the dollar economy and those who live primarily on state subsidies. Formerly minor problems like prostitution and social inequality have reappeared and deepened for the first time since the fall of Batista.



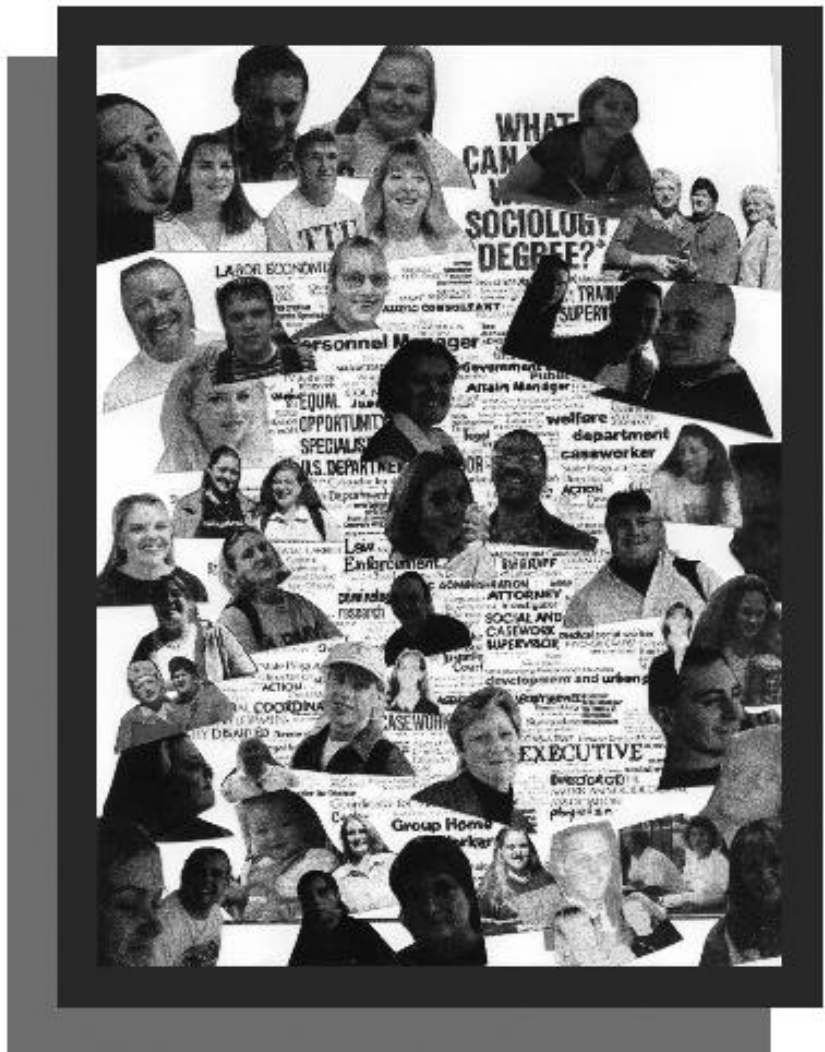
Moreover, the changes since 1992-1993 have led to a renaissance of religious movements, Afro-Cuban, Protestant, Jewish, and Catholic. The Catholic Church before 1959 was overwhelmingly foreign (Spanish), conservative, and urban. With the rise of the revolutionary movement, the Church formally opposed radical social change. Thus, most were expelled or left after Castro's takeover, 40 years ago January 1, 1999. However, by the late 1960s the Church began a rapprochement with the new system and has been at once a major critic of what it perceives to be the failures of the Communist regime, and a central actor in the configuration of a post-Communist political future for this island of 11 million. Pope John Paul II's visit in

January of this year marked a major change in government policy and liberalization. During my visit, I was also part of a Ford Foundation-sponsored scholarly exchange with Cuban scholars and foundations. Many American Universities (e.g., Johns Hopkins, American University) already have exchange programs in Havana, and Cuban scientists, physicians, and social scientists/artists have increasingly visited the United States to attend professional meetings. Thus, it seems that the image of Cuba characterized by the shoot-down of exile planes and the conflict over the Helms-Burton law lacks many nuances that characterize events in Cuba today.

--Dr. Andrew Stein, Assistant Professor



# Sociology and Philosophy



--Donna Darden, Chairperson

## Tennessee Academy of Science at TTU

The Tennessee Academy of Science met at TTU on Friday, November 20, with many from the College of Arts and Sciences participating. Dr. Eugene Kline (Chemistry), president of the Academy, presided over the business meeting. Dr. Angelo Volpe, one of the few college presidents who are members of the Academy, gave welcoming remarks. The Academy of 850 members from across the state consists of faculty and graduate students. Its goal is to provide a "Forum for Science and Education and Research in Tennessee." Dr. David Yarbrough received the TAS Distinguished Scientist Award, one of the top awards in the Academy. During the conference, the first Outstanding Tennessee Industrial Scientist Award was presented to Dr. E. Barry Jones, from

DuPont in Old Hickory, Tennessee. The Academy hopes to interact with industry in developing programs to accomplish common goals. The Outstanding Teacher Award was presented to Mrs. Linda Barret Phillips, science and math teacher at Camden Central High School, Camden, Tennessee. She received additional credits above her MS degree at TTU. The speaker of the plenary lecture in the morning was an engineering major from TTU. Mr. Bill Eads, recent advisor to the governor of Tennessee on science and technology and chair of the Tennessee Economic and Community Development Committee, is now in Vanderbilt's office of Technology Transfer. His topic was "Technology Transfer" which is becoming a very important topic on campuses across the state and country.



Dr. Mike Redding (Biology) chaired the arrangements committee which worked out all the details. Others on the arrangements committee from the college were Dr. Dan Swartling (Chemistry), Dr. Frank Hadlock (Computer Science), Dr. George Webb (History), Dr. Hugh Mills (Geology) and Dr. Rubye Prigmore-Torrey (Office of Research/Chemistry). Several people from the College chaired planning committees and presided over the session meetings in the afternoon. They included Dr. Jeff Boles (Chemistry), Dr. Dan Swartling (Chemistry), Dr. Rubye Prigmore-Torrey (Chemistry), Dr. Hugh Mills (Geology), Dr. George Webb (History). Dr. John Harris (Biology) has been treasurer of the Academy for several years. Past presidents from TTU include Dr. Robert Martin (Biology), Dr. S. K. Ballal (Biology) and Dr. David Yarbrough (Chemical Engineering). Dr. R. K. Fletcher (Curriculum and Instruction) was treasurer for some time. Many TTU faculty and students participated in the poster and paper sessions. The Colleges of Engineering and Education were also very involved in presentation of papers, posters, and planning in their respective areas.

--Eugene Kline, Professor



Alice Camuti, University Development Director  
for the  
College of Arts and Sciences

**B**est wishes to you as we start this new year, the last year of the century! I'd like to take a few lines to introduce myself to you. I joined the development staff at TTU in October. I am thrilled to be a part of this exciting university, and I feel I am supporting the most outstanding college on the campus. I graduated with a bachelor's degree in Marketing from California State University in San Bernardino and with an MBA in Management from San Francisco's Golden Gate University. While I cherish my education from those two stellar institutions, my financial and professional support goes not to my alma mater but to TTU! I believe in this university and its ability to deliver a superlative education. Prior to joining TTU, I spent fourteen years in the fields of marketing, sales, and operations management in the telecommunications industry. With my previous employer, I accepted a relocation to Tennessee four years ago and truly believe I've found my home.



Alice Camuti

Nineteen ninety-nine will be a year for me to focus on developing partnerships with our alumni, friends, and corporations, striving to match the needs of our college with the interests of our partners. As a partner, you have a genuine opportunity to make a difference in the lives of our students and faculty in the university's future. In 1999, we will embark on the first college-based capital fund-raising campaign. Our objectives are summarized by one word: BETTER. Partner support of the capital campaign will allow us to provide BETTER teaching, programs, technology, and student academic life. I believe in this college, this university, and the students with my whole heart. I hope to be able to partner with others who share that belief and want to truly make a difference. I look forward to working with you in 1999.

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Editor, Jack Armistead, Dean  
Editorial Assistant, Glenda Pharris

College Staff  
Robert C. Briggs, Associate Dean  
Colleen G. Harris, Executive Aide to the Dean

College of Arts and Sciences  
Tennessee Technological University  
Box 5065  
Cookeville, TN 38505-0001  
(931) 372-3119  
Fax: (931) 372-6142  
e-mail: GPharris@tntech.edu



College of Arts & Sciences  
Tennessee Technological University  
TTU Box 5065  
Cookeville, TN 38505-0001

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