The Richard A. Henson School of Science and Technology

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Richard A. Henson

From the Dean: It's Not About M.E.

HENSON SCHOOL INTERIM DEAN
Dr. M.E. Folkoff

Here it is the end of fall 2006 and another exciting semester, 15 weeks of our lives, have disappeared. Already the days are getting longer. Old earth science professors think about this stuff. Last summer, Dr. Tom Jones, the real dean of the Henson School, moved on to become interim provost of the University, leaving a real vacancy in our school. Dr. Jones has been a stalwart of the Henson School for over 30 years as a member of the biology faculty, then chair of that department, associate dean and finally dean for nearly a decade, directing the greatest growth period for sciences in SU's history. He was the principal player in the building of Henson Science Hall, directed the long-overdue renovation of Devilbiss Hall, implemented the Henson endowment, and led the charge to develop graduate programs in applied health physiology, GIS and public administration and the Master of Science in math education. Although no longer directly involved in the day-to-day of Henson, as provost and vice president for academic affairs, which is the complete title of the position, he is in charge of all things academic, including all the schools of the University. Thanks Tom, for everything.

For this year, I was appointed interim dean, awaiting the appointment of a regular dean. I am a caretaker just trying to keep the school on track for this short period. There have been many famous caretakers in popular culture (e.g., "Kato" Kaelin, Chauncey Gardner). My model is Jack Nicholson in *The Shining*. "All work and no play make Jack a dull boy." We are attempting to hire 11 faculty school wide. In a large part, this unusual hiring spree is to accommodate the extraordinary growth of the University. In some part, it is to replace recently retired, unforgettable and irreplaceable, long-time Henson faculty in geography, nursing, biology and respiratory therapy. Professors Drewer, McGrew, Thomas and Wiberg have retired. To our great regret, Dr. Ted Wiberg passed away in late December.

The estate of Lucy Tull has given a $5.3 million dollar endowment to the University Foundation for the Henson School primarily to support full, four-year scholarships in medically related fields, especially nursing. This Shore native's enlightened need-based gift is for students in Wicomico, Worcester and Somerset counties. This is a rare and precious dedication to Salisbury University and its students in service of the residents of the Lower Shore and the people of Maryland. It reassuring to know that unbelievable people like Mr. Henson and Ms. Tull were around, demonstrating an immense social consciousness for others to follow.

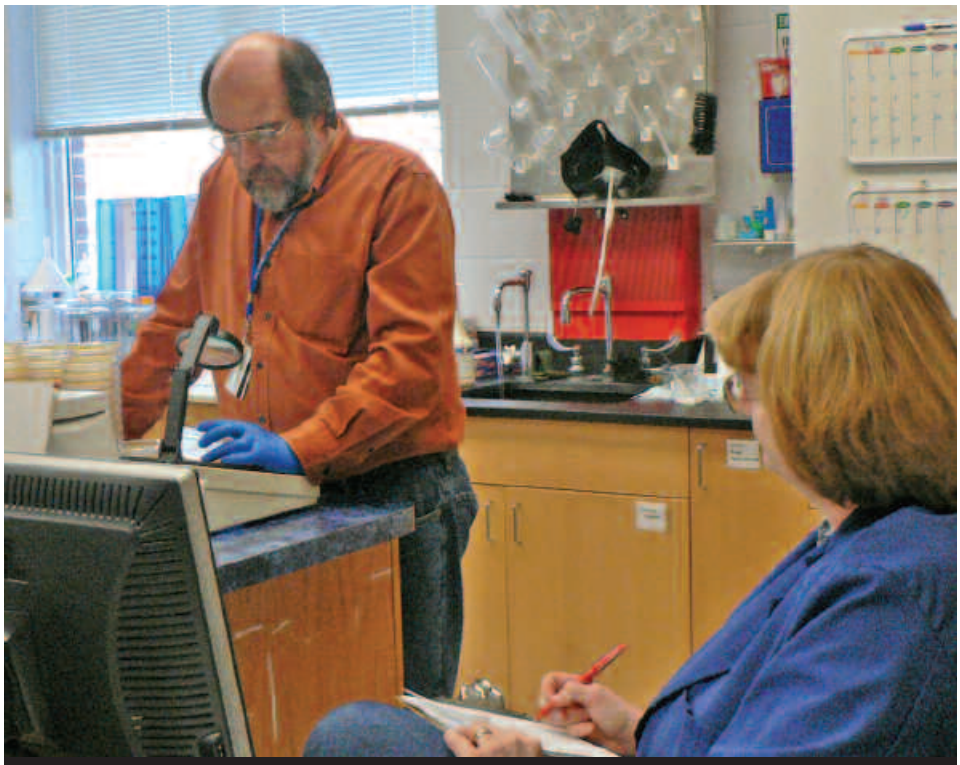
Certainly the vacuum created by Tom's departure was felt throughout the school. I am a mere electron in the atom's outer shell of the Henson element. The chairs of the Henson School academic departments, the directors of academic programs, the school technicians, Richard Wallace's incredible housekeeping staff and the school administrative assistants, especially in the dean's office, have seen to the continued excellence of our school operations. And, of course, the science faculty have kept this enterprise well–anchored in an ever changing sea.

New Centers Increase Research Capabilities

The Henson School has long had a reputation for excellence in research and professional development. In addition to a strong record of publishing, presenting at scientific conferences and receiving grants, collaboration with colleagues across the country and the world is an integral part of the professional activities of our faculty. Now the Henson School is home to two major research and cooperative centers, the Bacterial Source Tracking (BST) Laboratory and the Eastern Shore Regional GIS Cooperative (ESRGC), and is an academic partner in a third, the Mid-Atlantic Institute for Space and Technology (MIST). These centers not only add to the professional activities of the University but have significant impact on the region as well.

The BST Lab, co-directed by Professors Mark Frana and Elichia Venso of the Department of Biological Sciences and the Environmental Health Science Program, works closely with the Maryland Department of the Environment (MDE) to monitor bacterially impaired Maryland waterways. *Enterococcus* spp. bacteria are commonly found in human and animal waste and their levels are important indicators of water contamination. The BST Lab uses new techniques, including DNA Analysis (Pulsed-field Gel Electrophoresis followed by statistical analysis with BioNumerics®) and Antibiotic Resistance Analysis (ARA), to determine not just the level of contamination, but also the sources of the enterococci.

The first step in the lab's work is to isolate *Enterococcus* spp. from known-source scat samples, (i.e., fox, goose, dog, human) and build a "library" of banding patterns and/or antibiotic resistance profiles using these two techniques. The same bacterial indicator organism is then isolated from water samples collected from impaired rivers and shellfish harvesting areas and analyzed using these same techniques. Then, a statistical comparison of scat and water banding patterns and/or resistance profiles are used to predict the likely sources of the bacteria in the water. As an example, using ARA, probable sources of bacterial contamination for the headwaters of the Wicomico River (above Johnson's Pond) included: 41% wildlife, 22% pet, 20% human, 6% livestock with 11% unclassified. The results from the BST Lab are being used by MDE to develop state bacterial Total Maximum Daily Loads (TMDLs), as mandated by the Clean Water Act and overseen by the U.S. Environmental Protection Agency.



Dr. Mark Frana and Lesley Frana scoring plates for antibiotic resistant bacteria in the Bacterial Source Tracking (BST) Laboratory.

In addition to Venso and Frana and two part-time assistants, Lesley Frana and Annie Adkins, more than 30 Henson undergraduate students (from biology, environmental health science, and mathematics and computer science) have worked in the lab, either as paid employees, research students, internship students or volunteers. Since beginning their work in the area of BST in 1999, Venso and Frana have shared their expertise and the important results of this work at numerous meetings and in professional journals. Students have been co-authors on many of the presentations, including student authorship and attendance at a June 2006 meeting on Enterococci Genetics, sponsored by the American Society of Microbiology, held in St. Malo, France. Frana and Venso are also collaborating with biology associate professor Dr. Eugene Williams to investigate the potential use of bacterial membrane lipid composition as another BST method for source identification. Two students accompanied Williams, Frana and Venso to present those results to date in Orlando, FL, in May 2006. Continued funding of the

BST center through MDE grants and contracts (as well as Henson funding) insures that this work will continue through at least 2010.

The Department of Geography and Geosciences serves as the home base for the ESRGC which is a joint effort of the Mid-Shore Regional Council, the Tri-County Council of the Lower Eastern Shore and Salisbury University. The ESRGC is directed by associate professor Dr. Mike Scott, staffed by project coordinator Lauren McDermott and GIS analysts Jason Wheatley and Eric Hammond, all SU alumni. Geography undergrads Elizabeth Wheatley and Mary Creamer are currently interns in the center. The goal of the ESRGC is to improve the GIS (Geographic Information Science) technology capabilities of the county and municipal governments of the six counties of the middle and lower Eastern Shore by providing advice on GIS implementation, technical support, equipment loans, data collection efforts, data analysis exercises, cartographic services and GIS training. The cooperation of the three sponsors allows the center's services to be provided at minimal or no cost to the requesting county or municipality.

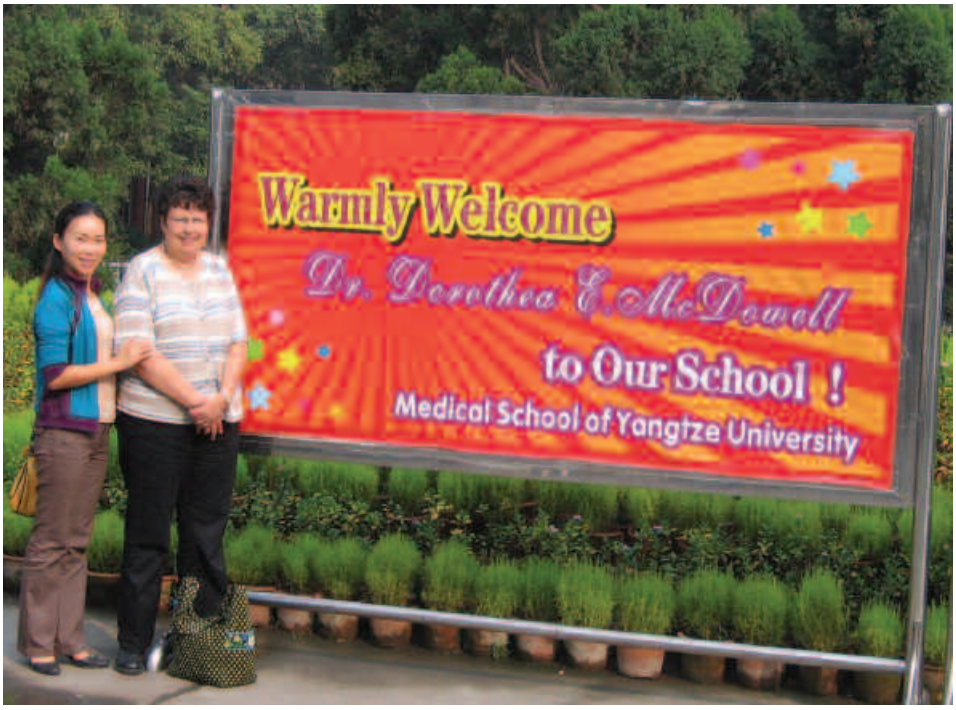
A few of the many and varied projects the ESRGC has completed recently include: a Traffic Visualization Project for Denton, MD; the John Smith Project, in which the location of the present-day town of Vienna, MD, was compared with the location of the Nanticoke River and Native American village recorded by Captain Smith on his map of 1608; and an interactive, online map of the resources along the Blue Crab Highway, done in conjunction with the Lower Eastern Shore Heritage Committee. The ESRGC was recently awarded the Maryland APA Public Education or Research Award for their outstanding work on another project, "An Assessment of Maryland's Vulnerability to Flood Damage." In this project, FEMA HAZUS-MH hazard vulnerability analysis modeling software was used to generate maps and tables of Maryland's potential for loss related to buildings from flooding on a county-by-county basis. The method took into account four major factors (such as the amount of county land in the 100-year flood plain and the number of buildings that could be damaged) to develop a more complete picture of the very complex issue of vulnerability to floods.

Along with Old Dominion University, University of Maryland College Park and University of Maryland Eastern Shore, Salisbury University has recently become an academic member of the Mid-Atlantic Institute for Space and Technology (MIST), a not-for-profit consortium of more than a dozen corporations in addition to the four academic members. The objectives of MIST include developing technologies that enable fast, low-cost, highly flexible access to space; advancing higher education; and establishing a national industrial base on the Eastern Shore. MIST is funded primarily through the federal government and has cooperative agreements with both NASA and the United States Air Force. This past summer, SU students participated in MIST projects including development of a small spacecraft attitude control node as part of a new spacecraft bus under the direction of Dr. Asif Shakur (physics), and GIS mapping work at Wallops under the direction of Dr. Mike Scott (geography and geosciences).

One component of MIST is the Mission Planning Laboratory (MPL), a PC-based simulation and modeling laboratory distributed between two primary nodes at SU and UMES, and two secondary nodes at the MIST building in Pocomoke and the Wallops Flight Facility. The goal of the MPL project is to develop a mission planning capability that reduces delays and costs associated with launch site and spaceport processes. The MPL at SU has been provided with computer hardware and commercial off-the-shelf (COTS) software valued at over $150,000 that will be tailored and extended to meet the laboratory's objectives. In addition to benefiting range customers, the MPL project will provide educational opportunities at the participating universities in simulation, process modeling, and mission planning and execution. Dr. Jeffrey Emmert is serving as the director of the MIST Mission Planning Laboratory at SU.

Collaboration with colleagues across the country and the world is an integral part of the professional activities of our faculty.

The MPL project at SU has completed its first two stages of development: physical establishment of the laboratory facility and faculty training on the commercial software. It has just begun its third phase: engaging SU students and faculty mentors in project work to extend the capabilities of the available COTS software to support small launch vehicle and spacecraft operations at the Wallops Flight Facility. Currently five Henson faculty members: Dr. Mara Chen (geography and geosciences), Drs. Enyue Lu and Philip Luft (mathematics and computer sciences) and Dr. Jeffrey Emmert and David Kanarr (physics), and five SU students, Scott Baker, Berek Bryan, Paul Halvorsen, Tu Hoang and Carrie Tragert, are participating in the project. Within the next few years the MPL will hopefully become self-supporting by offering inexpensive, quality mission planning services for suborbital and small orbital missions.



McDowell Lectures In China

Nursing faculty member Dr. Dorothea McDowell spent one month of her fall 2006 sabbatical in China where she lectured nursing and medical students at Yangtze University. Although most Chinese students can read and write in English, they have less experience with spoken English, so McDowell's lectures about the care of post-operative surgical patients and patients with diabetes mellitus were translated into Chinese.

McGlinchey Earns Highest USM Staff Honor

During her career at SU, Marylane McGlinchey, advising services coordinator in the Henson School, has helped hundreds of students earn their degrees. The University System of Maryland recently presented her with the Regents' Award for Excellence in an Academic or Residential Environment (Non-Exempt) for going the extra mile in serving those students.

"For the last seven and a half years, she has brought patience, compassion and enthusiastic guidance to our science students and to many undeclared majors," said SU President Janet Dudley-Eshbach.

"She is well-versed not only in the many possible majors and minors within our Henson School, but knows well what Salisbury University has to offer across our schools of business, liberal arts and education as well. She is superb in assisting students to find the right courses, programs and schedules to support their goals both within and outside of the classroom."

McGlinchey also serves on a number of SU committees including the Staff Senate, Varsity Club board of directors and Medical Careers Club. As coordinator and leader of the Henson School Health Professional Advisory Committee, she has promoted the placement of SU students in graduate health education.

An advocate of minority education, she wrote a successful USM Minority Recruitment Grant which supported eight underrepresented students in the Henson School. She also pioneered a new segment of SU's New Student Experience Program designed especially for these students. During the past two years, she also has been central in SU's conversion to the new PeopleSoft student record system.

"To simply say Mrs. McGlinchey is the most caring, dedicated, hardworking and knowledgeable advisor/mentor on this campus doesn't begin to recognize the depth or worth of her work at SU," said Dr. Tom Jones, interim provost and former dean of the Henson School. "Her door is always open to our students, and she opens the doors of faculty and administrators for her advisees when they need special assistance."

Board of Regents Chair Clifford Kendall (left) and USM Chancellor William Kirwan with McGlinchey and President Dudley-Eshbach

"It is obvious that Marylane loves people and assisting them in their life's journey," said Dr. Ellen Lawler of SU's Biological Sciences Department in nominating McGlinchey. "Her dedication and service have made a remarkable difference in the lives of so many."

Tull Bequest for Nursing and Health Professions

The SU Foundation, Inc. recently announced the largest single gift by an individual donor in its history—$5.3 million to benefit nursing and other medically related professions taught at SU. The bequest is from the estate of Lucy Tull of Salisbury, who died in June.

Most of the gift, $4.8 million, establishes the Lucy Tull Scholarship Program for students with financial need wishing to pursue a degree in a medically related field. Students must reside in Wicomico, Worcester or Somerset counties. The funds are also available for transfer students from Wor-Wic Community College who meet the scholarship prerequisites. While those studying nursing have priority, students in other programs such as pre-medicine and the health sciences, including respiratory therapy and clinical laboratory science, may apply. The Henson School has already begun accepting applications for the first round of scholarships for the 2007-2008 academic year.

The remaining $500,000 is earmarked for the Lucy Tull Nursing Department Enhancement Fund for faculty development and departmental equipment and supplies.

"Lucy Tull understood the importance of skilled nurses and other health care professionals to the Eastern Shore's quality of life, and developed an abiding appreciation for the reputation of our Nursing Department and the caliber of its graduates," said SU President Janet Dudley-Eshbach. "She also believed it was important to provide deserving Eastern Shore students with greater access to a Salisbury University education, which will give them the tools to succeed in today's knowledge-based economy."

Tull lived much of her early life in New York City, graduating from The American Academy of Dramatic Arts and the New York School of Interior Design. She was, however, a regular visitor to the Eastern Shore while growing up, with family ties to Worcester and Somerset counties. In later years, she resided in Salisbury and built a home near the University.

Lucy Tull

"This gift is a remarkable statement about the value to the community of well educated-health care professionals and the difference that many believe we can make," said Dr. Susan Battistoni, chair of the SU Nursing Department. "We, the faculty, are proud to be entrusted with Mrs. Tull's legacy."

In appreciation, the Nursing Department is naming the Lucy Tull Nursing Learning Resource Laboratory in Devilbiss Hall in her memory.

2006-2007 Henson Scholars

The Henson School of Science and Technology annually awards 16 scholarships, funded through the Richard A. Henson Endowment, to students majoring in programs within the school. Students are awarded a Henson Scholarship either as incoming freshmen or as rising juniors, and the scholarships are renewed as long as the scholars continue to meet the eligibility requirements. A scholarship board, consisting of the dean and representatives from each of the school's departments, selects Henson Scholars from those nominated by a Henson department or the Admissions Office. Henson Scholars are expected to maintain an excellent academic record, display active personal and career development, and participate in community service. The current Henson scholars and their majors are:

Freshmen:
Derek J. Jablecki, Mathematics
Nicole S. Massarelli, Mathematics
Rebekah E. Myers, Nursing

Sophomores:
Meghan K. Haley,
Clinical Lab Science
Anna P. Mackley, Biology
Kristin J. Simmons, Biology

Juniors:
Rachel H. Broemm, Mathematics
Lindsay J. Carroll, Biology
Rachel E. Michael, Biology
Karen E. Roberts, Nursing
Brian P. Smith, Chemistry

Seniors:
Brent A. Alogna, Chemistry
Jay H. Kalin, Chemistry
Faminda T. Lake, Nursing
Lynette Sgrignoli, Mathematics
Elise M. Yenchko, Nursing

In Memoriam: Dr. Ted Wiberg

Salisbury University and the Henson School recently lost a fine colleague and dear friend. Dr. Theodore (Ted) Wiberg passed away in December 2006 after an almost year-long battle with cancer.

Associate Professor Wiberg, who retired in June 2006, joined Salisbury University in 1982 and established the University's respiratory therapy major. In the early 1980s local pulmonologist Rodney Layton, M.D., approached SU about the need for a degreed program in respiratory therapy for the region. In response to that request, Dr. Peter Kernaghan, then chair of the Biology Department, recruited Wiberg specifically to develop such a program. Under his guidance, the University graduated its first class in respiratory therapy in 1985.

According to Dr. Tom Jones, interim provost: "Dr. Wiberg pioneered our four-year Respiratory Therapy Program that has grown and has reached national recognition and acclaim. Even more significant is that so many students will remember Dr. Wiberg so much more for his excellent teaching and his devotion to their well being and their future careers."

Since the early '90s, Wiberg has also taught pathophysiology and human anatomy and physiology in the Biology Department, thereby touching the lives of hundreds of nursing, biology and physical education majors as well as respiratory therapy majors.

The following, from respiratory therapy senior Lyndsey Feather, demonstrates Wiberg's devotion to his

students and their high regard for him: "I was completely at a loss at what I wanted to do with my life, as a career. Then I was fortunate enough to land Anatomy Physiology II with Dr. Wiberg. Not only did his class captivate me, but he did as well! … He showed me what I wanted to do with my life! I hated science, and yet here I am, just a few months away from graduating with a bachelor's in respiratory therapy. And I believe it's because Dr. Wiberg saw something in me that I didn't see in myself. To call him my mentor seems like an understatement. He helped me set goals and determine what I want out of a profession. I hope that one day I'm half as good a health practitioner as he was. I wish he wasn't gone. I wish he was still here, but his legacy will live on! If I can inspire just one person the way he inspired me, then he will never be truly gone".

Faculty, staff and students reminisced and honored Wiberg's memory at a memorial service on campus on January 24.

As Sandy Ramses, administrative assistant in the Biology Department, recalled: "Ted was wonderful to work for. He was kind, funny, generous and a very good friend. … Ted loved the students and they loved him. What an honor to have worked for him—I am truly going to miss him."

As a final testament of his devotion to students, the Ted Wiberg Memorial Scholarship Fund has been established. Donations may be sent to the Salisbury University Foundation, Inc., c/o Ted Wiberg Memorial Scholarship Fund, P.O. Box 2655, Salisbury, MD 21802.

Salisbury UNIVERSITY

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