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ECU recognized for supporting reserve troops
The Daily Reflector
Thursday, July 8, 2010

East Carolina University has been selected for the 2010 Secretary of Defense Employer Support Freedom Award from the U.S. Department of Defense for its support of employees who serve in the National Guard and Reserves.
The award is the highest recognition given by the U.S. government to employers for supporting reserve troops. ECU was selected along with 15 other employers across the nation to receive the award on Sept. 23 at a formal ceremony at the Ronald Reagan Building and International Trade Center in Washington, D.C.
ECU is the second university to receive the award since it was created in 1996. The award is given to five companies in three categories including small business, large business and the public sector.
Salisbury's Food Lion also will receive the award this year.
"We are honored to have been recognized in this fashion," ECU Chancellor Steve Ballard said.
"We believe strongly in our partnership with the military and it is one of our most important contributions to eastern North Carolina."
The university was nominated by Reservist Dr. P.J. Schenarts, who is a trauma and critical care surgeon and associate professor at the Brody School of Medicine and has served several times in Afghanistan.
Ballard said ECU makes a positive difference in educational programs, research and clinical services for the military. The university operates a variety of programs both on campus and from its Fort Bragg office to support troops and their families.
"East Carolina University and this year’s other recipients are among the top U.S. employers that provide outstanding support for Guard and Reserve employees," said James G. Rebholz, chairman of the National Committee for Employer Support of the Guard and Reserve.
"Their superior and unselfish initiatives to support their Guard and Reserve employees, make them indispensable partners in the defense efforts of this country. We are truly grateful for their unwavering support."
ECU, which also was named a 2010 military-friendly school by GI Jobs Magazine, offers programs at the Fort Bragg office to educate service members on academic programs that could boost their career and service experiences, said Steve Duncan, ECU’s director of military programs.
ECU established the Essential Life Skills for Military Families, a series of one-day workshops designed to equip Guard and Reserve members and their families with family—readiness tools to use during deployment.
ECU employees also support their fellow deployed co-workers by sending care packages and checking in on the families left behind during deployments.
The university’s College of Human Ecology developed designs for new Wounded Warrior barracks at Camp Lejeune and administers a $2 million grant to support National Guard families with financial management, legal matters and other issues.

The university also started Operation Reentry, which works with wounded soldiers and soldiers with post traumatic stress disorder to prepare them for civilian life after deployment.

The university has received several Patriot Awards and the ESGR Pro Patria Award, a state level award for service to military personnel.
ECU honored by the Pentagon as an outstanding employer

East Carolina University is among just 15 employers nationwide who will be honored by the Pentagon this year for extraordinary support of National Guard and Reserve troops.

It was also the only university in the nation to received an Employer Support Freedom Award, the federal government's highest honor for employers who give outstanding support to workers who also serve in military reserve units.

The winners, which were announced Thursday by the defense department, are nominated by Guard and Reserve troops or members or their families, and provide the reservists with full salary and other benefits while they are away from their civilian jobs serving.

Other winners include the Salisbury-based supermarket chain Food Lion.

The winners are picked from among the nominees by a selection board. The university will be presented with the award during a formal ceremony in Washington, D.C., Sept. 23.
ECU receives national award for its support of military employees

Posted: 6:39 p.m. yesterday

East Carolina University has been named a recipient of the 2010 Secretary of Defense Employer Support Freedom Award for its support of employees serving in the U.S. National Guard and Reserve, the U.S. Department Defense announced Thursday.

East Carolina University is among 15 employers from across the nation to receive the award this year.

Almost 2,500 Guard and Reserve members, or their family members, from across the country nominated employers for their exceptional support, which included providing full salary, continuation of benefits, care packages and even family support to employees fulfilling their military obligation.

The Freedom Award will be presented to East Carolina University during a formal ceremony on Sept. 23 at the Ronald Reagan Building and International Trade Center in Washington, D.C.

Web Editor: Kathy Hanrahan

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Scott Mooneyham:  
**College students facing debt unlike anything policymakers ever saw**

Friday, July 9, 2010

The ink was barely dry on a final state budget for the new fiscal year before administrators at the University of North Carolina at Wilmington announced that they would raise tuition by 19 percent.

That means students at the school, or more likely their parents, will be forking over $430 more in tuition in the upcoming school year, assuming the UNC Board of Governors approves the 19-percent hike.

The state budget, though, gives them that option, dropping a provision adopted by the North Carolina General Assembly a year earlier that had suspended campus-initiated tuition increases. With the prohibition gone, other UNC system campuses will, no doubt, quickly move to consider their own increases. The change means some schools could increase tuition by as much as $750 a year.

To put those figures in a little perspective, total inflation over the past year in the United States was just slightly above 2 percent. If you exclude energy costs from that calculation, the price rise in goods and services is less than 1 percent.

Bring up the topic of rising tuition rates, and university officials will quickly point to figures showing that tuition at the 16 UNC campuses generally ranks at or near the bottom when compared to “peer institutions.”

According to the U.S. Department of Education’s National Center for Education Statistics, the cost of annual tuition and fees at four-year public universities, in current dollars, rose from $617 a year in 1977 to $5,685 in 2007.

There’s been a corresponding rise in student debt. In 2008, students graduated from college with an average debt of $23,200, an increase of nearly 25 percent, or $4,450, according to the latest annual study by the Project on Student Debt.

In North Carolina, a 2008 college graduate left school with an average debt of $18,400, and 55 percent of students had some level of college-incurred debt upon leaving school, according to the study.

UNC officials point out that they must compete in this atmosphere of escalating tuition, compete to maintain quality schools and compete to keep good faculty.

It’s hard to dispute their logic.

Still, the decision-makers and policymakers are saddling the latest generation with debts that they themselves weren’t forced to bear.

Maybe that’s not much different from what’s occurring in the rest of the public policy arena in America.

Scott Mooneyham writes about North Carolina government and politics for the Capitol Press Association.
ECU hires new pitching coach
Thursday, July 8, 2010

Dan Roszel, who spent the past two seasons at the College of Charleston, has been named the pitching coach at East Carolina.
Roszel takes over the position that was vacated when Bill Jarman resigned in June.
“We are excited to have Dan Roszel join our coaching staff at East Carolina,” ECU coach Billy Godwin said. “He is well respected in baseball circles, has an outstanding reputation as a pitching coach and recruiter and will be a great asset to our program.”
During his two seasons with the Cougars, Roszel served as the pitching coach and recruiting coordinator. The Cougars ended last season ranked 27th in the National Baseball Writers Association poll.
“I am extremely excited to have been given the opportunity to be a part of such an amazing university and coaching staff,” Roszel said. “Coach Godwin’s enthusiasm and passion for East Carolina and the baseball atmosphere are second to none. I am thrilled to be able to share my love of pitching with our talented staff. I can’t wait to get started.”
Roszel helped three CofC hurlers — Heath Hembree (fifth round), Kevin Decker (39th round) and Casey Lucchese (39th round) — get selected in the 2010 Major League Baseball draft.
“Coach Roszel brings a great amount of knowledge and passion for baseball and pitching,” Godwin added. “He will help East Carolina continue to win championships and reach our goal of playing in the College World Series in Omaha.”

— ECU Media Relations
At 100, NCCU seeks a solid future

DURHAM -- Though N.C. Central University had a little cake and pageantry Thursday to mark its 100th birthday, the school's focus in this centennial year has been on celebrating in a more meaningful way - boosting alumni participation, drumming up financial support and emphasizing its academic mission.

As Chancellor Charlie Nelms sees it, all that led the historically black institution to this moment helped prepare it for the challenges of today.

NCCU concluded its string of centennial events Thursday, with Nelms burying a time capsule that includes a letter he wrote to NCCU's chancellor 100 years from now.

"It's to give that chancellor some idea of how the institution got to that point," Nelms said. "Had that letter been there for me, it would have confirmed to me some of the challenges that [NCCU Founder James Shepard] must have endured."

One of those challenges has long been funding, both public and private. The centennial year was intended, in part, to involve alumni and to get them to give back to the school.

The result is mixed so far, Nelms said Thursday.

Although a greater emphasis on communication has brought more alumni back to campus, the struggling economy appears to have taken its toll, he said. NCCU has more donors now than it did a year ago, but it brought in less money than the prior year.

That's a blow, given that NCCU is in the middle of a $50 million fundraising campaign and created a student call center this year to connect with donors. The university hoped student involvement would bolster donations to the annual fund. Until last year, that been outsourced to a private fundraising firm that in its final year netted $217,000 for NCCU. More current fundraising figures weren't available Thursday.

About 7.9 percent of NCCU alumni give back to the university, below the 11.7 percent average for all universities, according to 2009 data.

Still, many graduates say they're hearing from the university more these days and feel more connected to it. They've gathered for alumni "Days of Service," performing garden and other services in the Durham community.

And they've been pleased with the historical nature of many centennial events.

From the first event a year ago - a re-enactment of the signing of the university's charter that featured the descendants of the actual signers - NCCU has trumpeted its history heavily.

Religious origins
The institution has traveled a winding path. The university was conceived by Shepard and a small group of Durham businessmen who wanted a religious school for blacks. At its founding, it was called the National Religious Training School and Chautauqua for the Colored Race.

The school relied on donations, which waned when World War I arrived. It couldn't pay its bills and was eventually turned over to the state, which in 1923 made it a teacher training school for blacks. Shepard became its principal.

Two years later, Shepard lobbied and received state money to turn it into a liberal arts college, and it became the North Carolina College for Negroes, the nation's first liberal arts college for blacks.

NCCU now enrolls 8,300 students on a largely landlocked, cramped campus.

Much of NCCU's centennial observance was distinctly academic, reflecting Nelms' desire to emphasize the university as a hub for intellectualism. No event illustrated that more clearly than a recent symposium hosted by NCCU that brought university leaders from across the nation to examine the future of historically black colleges and universities.

Asking tough questions

Far from a pep rally, the symposium offered a critical look at the challenges facing these institutions. Chief among them, many said, are lagging graduation and retention rates. U.S. Secretary of Education Arne Duncan, in his keynote address, challenged historically black colleges and universities to get more students to graduation day.

The symposium was, for a while, the talk of black higher education, said Marybeth Gasman, a University of Pennsylvania researcher who writes extensively about HBCUs. Many left the event impressed that it tackled the sometimes uncomfortable issues of graduation rates, funding problems and long-held complaints about financial aid, admissions and other campus services.

Through it all, the symposium helped raise NCCU's national profile, she said.

"I heard in a lot of HBCU circles after how happy people were that it did have those honest discussions," said Gasman, who was a panelist during the symposium. "It was just a really, really rich and honest discussion. And that doesn't always happen in higher education."

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ACC lands a monster TV deal

If you can find enough spare time, the ACC and ESPN want to put about 5,000 things on your agenda during the next 12 years.

That's roughly the number of ACC sporting events expected to be televised from 2011-12 through 2022-23 by the TV company's cluster of outlets that includes ABC, ESPN, ESPN2, ESPNU, ESPN3.com and ESPN International among others.

During an hour-long news conference to announce the all-sports deal on Thursday, ACC commissioner John Swofford and ESPN vice president John Skipper would not reveal financial arrangements.

Various reports have put the total at $1.86 billion over the duration of the deal. Swofford called "accurate" the figure he had seen reported during the past several weeks.

Swofford did say the money from ESPN would "more than double" the television income for the 12 ACC schools from the various contracts that expire at the end of the current school year. That would be about $13 million per school per year.

"This is a terrific day for the ACC," Swofford said.

While the key commodities are men's basketball and football, Swofford and Skipper said some events in all 25 of the league's sanctioned sports will be televised during the course of the pact.

"This is the first time ESPN did an all-in deal to acquire all of [a league's sports rights]," said Skipper, a North Carolina graduate.

Specifically, Swofford said all games in the league's increasingly popular baseball tournament will be available through one of the ESPN outlets.

Swofford also said the contract will make it possible for ESPN to continue the league's long association with Charlotte's Raycom Sports production company to air some events.

Other items of interest:

Sunday men's basketball: Swofford said the 10-year series with Fox would go to ESPNU with games starting generally between 2 and 6 p.m. Some of the Fox games began as late as 8 p.m.

Swofford said fans had expressed interest in early starting times on Sunday.

Regional football syndication: Raycom will continue to produce the package, but starting times will move from about 12:15 to 12:30 on Saturday afternoons.

Conference membership: Any change up or down in the number of league members would lead to renegotiation with ESPN. Skipper said the same provision is included in ESPN contracts with 30 other
conferences.

Market blackouts: Blocking ESPN telecasts of certain league men's basketball events will end with the inception of the contract.

Non-league road games: The contract with ESPN pertains only to ACC home games in all sports, other than the ongoing ACC-Big Ten Challenge men's basketball series.

The host team almost always has telecast rights. But since ESPN is so heavily involved with all conferences, it'll be relatively rare that ACC road games in football and basketball wind up on other channels.

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Share of College Spending for Recreation Is Rising

By SAM DILLON

American colleges are spending a smaller share of their budgets on instruction, and more on recreational facilities for students and on administration, according to a new study of college costs.

The report, based on government data, documents a growing stratification of wealth across America’s system of higher education.

At the top of the pyramid are private colleges and universities, which educate a small portion of the nation’s students, while public universities and community colleges serve greater numbers, have fewer resources and are seeing tuitions rise most rapidly.

The study of trends in revenues and spending by American institutions of higher education from 1998 through 2008 traces how the patterns at elite private institutions like Harvard University and Amherst College differed from sprawling public universities like Ohio State and community colleges like Alabama Southern.

The United States is reputed to have the world’s wealthiest postsecondary education system, with average spending of around $19,000 per student compared with $8,400 across other developed countries, says the report, “Trends in College Spending 1998-2008,” by the Delta Cost Project, a nonprofit group in Washington that advocates for controlling costs to keep college affordable.

“Our analysis shows that these comparisons are misleading,” said Jane Wellman, the project’s executive director. “While the United States has some of the wealthiest institutions in the world, it also has a ‘system’ of postsecondary education with far more economic stratification than is true of any other country.”

Community colleges, which enroll about a third of students, spend close to $10,000 per student per year, Ms. Wellman said, while the private research institutions, which enroll far fewer students, spend an average $35,000 a year for each one.
Undergraduate and graduate enrollments nationwide grew to 18.6 million students overall in 2008 from 14.8 million in 1998, an increase of 26 percent, the report said. Among all the sectors that make up American postsecondary education, public community colleges added the most students over the decade, growing to 6.3 million from 5 million.

Enrollment at private colleges and universities, by comparison, grew to 2 million students from 1.8 million in the 10 years.

Tuition, on average, rose more rapidly over the decade at public institutions than it did at private ones. Average tuition rose 45 percent at public research universities and 36 percent at community colleges from 1998 to 2008, compared with about 21 percent at private research universities.

But the trend toward increased spending on nonacademic areas prevailed across the higher education spectrum, with public and private, elite and community colleges increasing expenditures more for student services than for instruction, the report said.

The student services category can include spending on career counseling and financial aid offices, but also on intramural athletics and student centers.

“This is the country-clubization of the American university,” said Richard Vedder, a professor at Ohio University who studies the economics of higher education. “A lot of it is for great athletic centers and spectacular student union buildings. In the zeal to get students, they are going after them on the basis of recreational amenities.”

On average, spending on instruction increased 22 percent over the decade at private research universities, about the same as tuition, but 36 percent for student services and 36 percent for institutional support, a category that includes general administration, legal services and public relations, the study said.

At public research universities, spending for student services rose 20 percent over the decade, compared with 10 percent for instruction.

Even at community colleges, with their far smaller budgets, spending on students services increased 9.5 percent, compared with 3.4 percent for instruction.

The study also said that the recession that began in the last months of 2008 has dramatically changed the economics of higher education, probably forever.

“The funding models we’ve created in higher ed are not sustainable,” Ms. Wellman said. “We ran up spending in the ’90s and early 2000s to levels we can’t maintain, and this is true not
only in the elite privates, but in many of the public institutions, too.”

Now, with private-college endowments battered and state legislatures slashing university budgets coast to coast, “policymakers as well as university presidents and boards must learn to be better stewards of tuition and taxpayer dollars,” she said.

This article has been revised to reflect the following correction:

**Correction: July 9, 2010**

The headline with an earlier version of this article incorrectly stated that American colleges spend more on recreation than on instruction. The study showed that the share of spending on recreation was rising more quickly than the share of spending on instruction.
TODAY:

Stanford student Keyan Salari, MD, and geneticist Stuart Kim in the class "Genomics and Personalized Medicine" in which students study their own DNA and discover their predispositions for diseases and other

The human genome: Big advances, many questions
By Steve Sternberg, USA TODAY

Every Wednesday at 3:15 p.m., a few dozen Stanford University medical students turn their backs on the sun, gather in a high-tech classroom and flip open their laptops. The summer class they're taking is a foray into the future of medicine. The course title, Genetics-210, Genomics and Personalized Medicine, betrays little about how personal the journey will be. The students will study their own DNA and unlock the mysteries of their ancestry, medical destiny and longevity.

"The students will learn troubling things," says Stanford geneticist Stuart Kim, the class's faculty sponsor. "You will learn that you have a predisposition for lots of different diseases. Some may learn that their ancestors aren't who they thought they were, that their father isn't their real father." Ten years after President Clinton hailed the completion of the first draft of the human genome, on June 25, 2000, these doctors-to-be are grappling with the many challenges posed by a dawning era of genomics.

The race to sequence the genome, which took 10 years and cost $3 billion, has been overtaken by a new goal: to sequence genomes by the thousands to parse the linkages between genes and disease.

Stunning advances in sequencing technology have cut the time it takes to decode a genome from a decade to a couple of weeks. The cost has dropped from $3 billion, about $1 for each of the genome's 3 billion chemical components, to less than $10,000, with the $1,000 genome in sight. "That will allow for many thousands, maybe millions, of genome projects in future years," says Kevin Davies, author of The $1,000 Genome, The Scientific Breakthrough That Will Change Our Lives (Free Press), due out in September.

Already, genetic analysis is a commodity sold on the Internet for as little as $500. Each day, more people submit DNA for analysis — just as the students did for their class — and confront perplexed doctors with profound and frequently unanswerable questions about what the results mean.

That's because most genomic information is awash in uncertainty, Kim says. Few diseases are caused by a single, readily identifiable gene; most result from the interplay of genes and a host of other factors, from lifestyle to the environment.
That researchers still have so far to go in their effort to understand the workings of the genome may come as a surprise to many who perceived Clinton's White House announcement, followed three years later by news that the final genome sequence was virtually complete, as the climax of the quest.

In fact, the completion of the Human Genome Project was more of a milestone along the road to understanding than it was a mission accomplished. Most scientists regard the achievement as a launching pad for revolutions in biology and related technologies that are just now getting underway.

"What we're seeing is the birth of a new biology," says Eric Green, director of the National Human Genome Research Institute (NHGRI) at the National Institutes of Health, which sponsored the public sequencing effort.

Taken to its most extreme, researchers have begun to create man-made genomes, a departure from nature with such profound implications that President Obama's Commission for the Study of Bioethical Issues will devote its first meeting, today and Friday, to "synthetic biology."

The most pressing challenge is to figure out how the genome works and exploit that information to understand and treat a host of human diseases, from heart disease to cancer, from diabetes to Alzheimer's disease.

"What the genome project delivered was basically a parts list and a blueprint," Green says. "We're learning how the parts work together and figuring out what each one of them is doing."

**We're all 99.5% identical**

Answers to those questions lie in the deepest recesses of each human's 100 trillion cells. Coiled in each cell are 46 bundles of DNA, 23 from each parent. Each bundle of DNA is made up of four chemicals — adenosine, thymine, cytosine and guanine — paired two by two in a twisted ladder called a double helix.

The Human Genome Project yielded the precise sequence of these so-called base pairs, packaged in roughly 20,500 genes, about the same number found in chimpanzees and dogs. Genetically speaking, the planet's 6 billion people are 99.5% identical. Individual genomes vary by just one pair of bases for every 5,000 found along the genome.

That's a tiny number, considering that the genome is made up of 3 billion base pairs. Yet the variations are all-important, accounting for all of the traits that make one person different from another, whether it's height, weight, hair and eye color or heart disease and cancer risk.

Researchers believe that patterns of base-pair variations, called haplotypes, can guide them to genes that cause disease.

To ramp up research into these variations, NHGRI quickly launched a second project, the International HapMap Project, to create a "comprehensive catalog" of these variations and where they occur worldwide. The HapMap offers scientists a handy guide to variations that travel together from parent to child through global populations, making it easier for researchers to link specific variations to human diseases.

Princeton University's David Botstein, a pioneer of gene mapping, likens the leap from pre-human genome methods of tracking disease-causing genes to "navigation by the stars" vs. navigation by GPS, or global positioning satellites.

With the HapMap in hand, researchers are comparing the variations found in afflicted patients with those of healthy people. A variation that occurs repeatedly in sick people but not in healthy ones may either cause the illness or live in the same neighborhood as the disease-causing gene. Over the last several years, researchers have used this method to identify 100 regions of the genome with gene variants that are linked to a higher risk of such diseases as diabetes, coronary artery disease, breast and prostate cancer, inflammatory bowel disease, rheumatoid arthritis and age-related macular degeneration.
The trouble is that most of these genetic variants are "rather weak" in their contributions to disease, says Francis Collins, director of the National Institutes of Health, who spearheaded the public Human Genome Project as the head of NHGRI. That means other unknown factors are at work, and researchers are still trying to figure out what they are, he says.

One major roadblock is researchers are still trying to determine the precise gene, or combination of genes, that causes the vast majority of diseases. "It's like knowing a suspect is in the neighborhood, but not knowing what house the culprit is in," says David Goldstein of the Duke Center for Human Genome Variation. "And because we haven't found the precise mutation, we don't have an accurate estimate of its effect on risk."

In some cases, Goldstein says, the real effect can be weak. For instance, researchers may discover a genetic change that affects the regulation of blood sugar levels that, along with diet, exercise and other factors, may tip the balance toward or away from diabetes. "It's not inappropriate to view everyone in the world as potentially an (adult-onset) diabetic," he says. "If you push hard enough, you can turn anyone into a diabetic. A person's vulnerability is governed by genetics."

Connecting genes with disease

Researchers hope the next set of breakthroughs will come from studies designed to narrow the resolution even more, by sequencing even more genomes. One key initiative is the 1,000 Genomes Project, an effort by researchers from England, China and the USA to sequence and compare the genomes of at least 1,000 people to home in more precisely on variations linked to disease.

Another is the Cancer Genome Atlas, an effort to collect more than 20,000 tissue samples from more than 20 cancers, and identify cascades of genetic changes that give rise to tumor growth. Last September, President Obama sought to boost the effort by committing $175 million in funding from the American Recovery and Reinvestment Act. "We're starting to get a picture not only of what goes wrong, but the timing of events and how those events interact to cause disease. That's pretty cool. That's where you want to be with this," says Richard Wilson of the Genome Center at Washington University in St. Louis.

Goldstein says the key to identifying the genetic causes of diseases is to sequence patients' genomes. His team has sequenced about 40 genomes of schizophrenia patients and 30 of those with epilepsy as part of an effort to pinpoint the genetic glitches that are causing the two diseases. The researchers plan to compare those genomes with those of people without known neuropsychiatric disease. Already, Goldstein says, they've found "huge" deletions in genes of people with those diseases, but those deletions only explain a minority of cases. The search goes on.

"We're doing the equivalent of four or five human genome projects every week," he says. "I believe it is going to connect genes with disease."

The dazzling speed with which scientists are churn out genome sequences — new sequencing machines now produce a thousandfold more base pairs per run than their predecessors — has created computing and storage challenges beyond anything researchers had imagined. "We're really crying out for the ability to analyze this efficiently and effectively," says Vivien Bonazzi, head of computational biology for NHGRI.

Neanderthals live on

A bigger concern for patients is that the slow pace of discovery has hindered the search for new drugs. "There was a lot of talk during and in the immediate aftermath of the human genome," says Davies, also executive editor of the trade magazine Bio-IT World, "that we were going to enter a period of personalized medicine, offering the right drug at the right time for the right person, and now people are asking, 'Why aren't we there yet?'"
"People have forgotten what a painstaking, arduous undertaking drug discovery is."
Davies notes that for all our advances in sequencing and gene hunting, researchers still have to
develop a drug, try it in mice and then test it in humans. "Then it's a crapshoot," he says. "You
may find out it isn't safe, doesn't have the predicted effectiveness or hit more than one target in
the body, so it has unexpected side effects."
Still, the new biology has led to surprising insights into such things as human origins and the
underpinnings of human longevity. For instance, Svante Pääbo of the Max Planck Institute for
Evolutionary Biology in Germany and his team reported in Science in May that Neanderthals,
who died out 30,000 years ago, live on in people of non-African descent, who still carry from 1%
to 4% of Neanderthal DNA.
Last week, a team led by Thomas Perls of Boston University School of Medicine found that
people who live 100 years or longer carry genes that, when coupled with healthful living, grant
extra-long life.
One of the biggest breakthroughs came in May, when researchers announced what its chief maker
called "the world's first synthetic cell," a bacteria strain powered by man-made genes.
"This is the first self-replicating cell we've had on the planet whose parent is a computer," team
leader Craig Venter, of the J. Craig Venter Institute in Rockville, Md., told reporters at the time.
The designer bacteria represent a major stride toward a future in which microbes make fuels,
chemicals and materials.
Synthetic biology has a dark side, too. Randall Larsen, director of the Homeland Security
Institute, notes that at a recent lunch he asked seven leading scientists how many could synthesize
smallpox, eradicated 30 years ago, in their labs. Three raised their hands.
"I'm not worried about the world's leading scientists," Larsen says. "What worries me is that five
years from now this will be in the hands of graduate students."