



West Virginia
Higher Education
Policy Commission

**Higher Education
News Clippings**

Week of August 23, 2009

Three state colleges get over \$4M in federal grants

By The Associated Press

CHARLESTON, W.Va. -- Three West Virginia universities will share more than \$4.4 million in National Science Foundation grants to promote computer technology and biometrics research.

Sen. Jay Rockefeller and Gov. Joe Manchin announced today that West Virginia University, Marshall University and West Virginia State University will get the money from two grants.

The first, worth \$2.6 million over three years, will help the schools in upgrading their computer systems with an eye toward making scientific discoveries easier.

The second grant, worth \$1.8 million, will be used to fund biometrics research aimed at detecting chemical compounds or potential diseases.

The grants are being awarded through a project of the state Higher Education Policy Commission.



September 04, 2009

Local colleges advise of course to fight swine flu

By GREG JORDAN, Bluefield Daily Telegraph

BLUEFIELD — While county departments of health offer vaccinations against seasonal flu and advice for warding off swine flu, area colleges and universities are preparing to help their students avoid encounters with disease.

The Center for Disease Control and Prevention has offered guidelines to institutions of higher learning for circumventing the spread of swine flu, also known as H1N1.

“We’ve ready had a significant level of discussions that track back to spring,” said Jim Nelson, a spokesperson for Bluefield State College. “The college has reviewed and has pretty much put in place the CDC guidelines for institutions of higher learning.”

The CDC’s advice is “pretty much common sense,” Nelson said.

“We’re encouraging faculty to be a little more liberal in their attendance policies. Students are being encouraged, if they are experiencing any of the symptoms like low grade fever or body aches, not to come to class,” he said. “And also to remain away from campus for at least 24 hours after their fever disappears.”

Hand sanitizers have been distributed throughout the campus’s buildings, and posters encouraging students and faculty to wash their hands have been put up, Nelson said.

Students are being urged “not to feel heroic or pressured in coming to class. The knife cuts both ways historically if a student with an exam, class or an important session ignored their symptoms and came to class. At this point with swine flu or even regular flu, when in doubt, don’t come to class, don’t come to work, at least 24 hours after the fever’s gone,” he added.

There has been discussions about using “social distancing” to keep students from infecting each other; this involves seating them approximately six feet apart. This would not work in every classroom, but large settings with adequate space are places where this could be considered, Nelson said.

The need for caution was emphasized Friday.

“We’re aware today that West Virginia has had its first swine flu death,” Nelson said. “We’re looking at other campuses to see what they have done. The Air Force Academy had a significant outbreak among its freshmen, but they were able to control the movement of the student body due to the regimented nature of a military academy.”

Institutions are also looking at ways to help students whose schedules have been disrupted by a bout of the flu. At Concord University in Athens, the date for dropping

classes without penalty was extended to May 15 this year, according to information on the university website.



September 1, 2009

Provost candidate Coleman:WVU on the move

BY CASSIE SHANER The Dominion Post

WVU is on the move, and its next provost will have an opportunity to improve the institution, enhance the student experience, and increase the school's impact on the state and nation, James Coleman said Monday.

"This is a wonderful time — with a new president, a new chancellor of health affairs and a new provost — to really potentially move this university to another tier, whatever that tier might be," said Coleman, vice provost of research at Rice University. "The potential value impact is huge. This, to me, is the most exciting provost job out there in the country right now."

Coleman, the second of three candidates for WVU's provost position to visit campus, said the university's potential for success and his passion for public education attracted him to the job. He highlighted his qualifications and answered questions about his background during an academic and community forum at the Mountainlair Blue Ballroom on Monday.

Coleman will participate in a research and outreach forum today at the National Research Center for Coal and Energy before wrapping up his visit.

Michele Wheatly, dean of the College of Science and Mathematics at Wright State University in Dayton, visited campus and participated in forums last week; and Jeff Armstrong, dean of the College of Agriculture and Natural Resources at Michigan State University, will be in town for forums Wednesday and Thursday.

Coleman began his career as a faculty member and researcher, and he developed an interest in administration after working for the National Science Foundation. He served as vice chancellor for research and professor of biological sciences at the University of Missouri-Columbia before moving on to Rice two years ago.

But Coleman said he's ready to take on a provost position and return to public education. Rice University is a private institution.

"My heart is in public higher education, and I really want to get back to it," Coleman said.

Coleman said articulating the university's benefits and facilitating the work of others are his strengths. His greatest weaknesses are getting involved in too many activities at once and becoming discouraged when things don't work out as planned.

"I'm an enthusiastic leader with a wide range of experience in academia, a lot of experience in institutional leadership and understanding how all the schools and colleges are put together," Coleman said, summarizing his qualifications. "I have a lot of

experience working with deans, and I'm passionate about public higher ed and what we can do in West Virginia."

Ann Oberhauser, geography professor and director of the Center for Women's Studies, noted that West Virginia's economy hasn't been hit as hard as other states affected by the national recession, and she asked how the economic will impact higher education at WVU.

Coleman said the economy has forced WVU and other schools to become more aggressive and creative in covering costs, but he doesn't plan to cut faculty in favor of online programs.

"My vision of higher education hasn't changed," Coleman said. "We are still incredibly important, maybe even more important. ... These are challenging times, and the whole community's going to have to come together to think about it."

Katharine Karraker, assistant dean for undergraduate studies in the Eberly College of Arts and Sciences, said she liked Coleman's commitment to research, but she asked what else WVU could do to recruit and retain students.

Coleman suggested investing in advising and technology, among other initiatives. Missouri created learning communities in the dorms, and Rice has a residential college that provides a network of support, he said.

Coleman said WVU needs to find as many ways to engage students outside the classroom as possible.

"There is a tremendous educational experience here at WVU," Coleman said. "We need to make sure that people understand that. ... We need to sell those experiences to students."

Bob Dailey, a professor of animal science, said he liked Coleman's responses and his vision for WVU.

"I thought he was very good," Dailey said. "I liked his openness. I liked the fact that he thinks he's a man of integrity, which is important for the position."



September 3, 2009

WVU provost candidate: Research, scholarship essential

BY CASSIE SHANER The Dominion Post

Research and scholarship are essential at a land-grant university like WVU, helping to sustain programs and maintain a great student atmosphere, Jeff Armstrong said Wednesday.

“The faculty are the trees that produce the fruit,” he said, comparing research and scholarship to Michigan cherries. “We really need to make sure that we keep that fortified. It’s not just about rankings. It’s not just about student-faculty ratios, but the knowledge drives everything that we do.”

Armstrong, dean of the College of Agriculture and Natural Resources at Michigan State University, is the last of three candidates for WVU’s provost job to visit campus.

He shared his vision for WVU during a research and outreach forum Wednesday at the Mountainlair. He’ll participate in a second forum today devoted to academics and the university community.

Michele Wheatly, dean of the College of Science and Mathematics at Wright State University in Dayton, Ohio, participated in forums last week; and James Coleman, vice provost of research at Rice University, visited campus Monday and Tuesday.

Rather than detailing his background, Armstrong opened the forum by outlining a plan of action to help the university move forward.

WVU needs to develop a strategic plan, explain its value to key stakeholders, promote transparency through collaboration and communication, and be mindful of the trust others have instilled in the institution, he said.

Armstrong said it’s an exciting time for WVU, with a new president, provost and chancellor for health sciences.

“This is a time that I believe West Virginia University can surge ahead while others are sputtering,” he said, adding that landgrant universities were formed during tumultuous times. “This is a time when the state and nation need institutions like West Virginia University.”

Steve Selin, associate dean for the Davis College of Agriculture, Forestry and Consumer Sciences, asked how Armstrong planned to elevate WVU’s national status.

Armstrong suggested building on the institution’s strengths to boost its reputation and generate revenue. Michigan State expanded its long-term programs in Africa to form a partnership with the Bill & Melinda Gates Foundation, for example.

“We’ve built on that,” he said. “It’s one of those values. It’s one of those ‘Here’s where we’re going.’ That’s part of the discussion that needs to be held. What is the goal?”

Responding to a question from Faculty Senate Chairman Nigel Clark, Armstrong said he views research as a source of revenue. It supports the enterprise and generates salary savings, among other advantages.

Rankings and student-faculty ratios are important, but research is essential from an entrepreneurial perspective, Armstrong said, returning to his orchard analogy.

“If you don’t have the fruit being produced, you’re out of business,” he said. “Our business is knowledge. We’ve got to remember that. People expect us to be more nimble in the future.”

Armstrong said research is important for outreach, too. WVU provides value to the state through outreach, which he defined as discovery, learning and engagement.

“When I think of engagement, it’s interacting with the community — not only taking and solving problems, enhancing the quality of life or economic development, but also taking backing researchable problems,” he said. “It’s an interaction.”

George Lies, grants administrator for the Office of International Programs, said he liked Armstrong’s agricultural background and his vision for WVU.

“He offers a vision which includes listening to faculty and expanding horizons, including global corridors,” Lies said. “It’ll create more visibility and people will want to come to the university.”

WVU Staff Council Chairwoman Jo Morrow, who serves on the university’s Board of Governors, said she was encouraged by Armstrong’s words.

“I think he could work well with the current administration,” she said. “I think he would work well with faculty, staff and students.”

Linda Adams, program assistant for Career Services, said it’s a “crucial time” for WVU. She attended forums with Wheatly and Coleman, too, but she has no preference.

“They’re all three impressive,” Adams said. “Each of them bring different attributes to the position.”

WVU spokeswoman Becky Lofstead has said President James Clements will likely review feedback, check references and reflect on his own impressions before choosing someone for provost.

Clements selected WVU’s new chancellor for health sciences about 10 days after the final candidate’s visit.

But Lofstead has said she’s not sure how soon Clements might make an announcement about the provost.

“I would imagine the decision would come early to mid-fall and the new person would start as soon as he/she could transition from one institution to another,” Lofstead said in an e-mail to The Dominion Post last month.



September 3, 2009

Armstrong: tension key to success

By Shay Maunz

At his second and final open forum Thursday, West Virginia University provost candidate Jeffrey Armstrong characterized a provost as someone who "manages tensions."

"If we don't have a certain amount of tension, we probably aren't going to get anything done," he said. "So the provost is key in that."

To be effective, the provost must work with the University president and other leaders in a cooperative, integrated process, Armstrong said, stressing the importance of thoughtful consideration when making decisions at the top levels of administration.

"These shouldn't be viewed as top-down decisions but informed decisions," he said. "There is a co-creation involved in that."

Tension often promotes productivity and efficiency, he said, but the provost is responsible for resolving tension and building communities within the University.

The provost is charged with striking a balance between administrative and academic concerns, he said, but to do so a university plan should be in place and all levels must communicate.

Armstrong said the task at hand is to be "more nimble so people can see that we're delivering on economic development and jobs but at the same time retain the essence of who we are, which is rooted in scholarship and the ability to think long term."

Armstrong is currently the dean of the College of Agricultural and Natural Resources and professor of Animal Science at Michigan State University, a position held since 2001. Prior to his appointment at Michigan State, he was head of the Department of Animal Sciences at Purdue University.

Student Government Association Gov. Taylor Richmond felt Armstrong's experience at Michigan, another University with a land-grant mission serving as its state's flagship institution, placed him in a favorable position.

"He sees the same problems. He sees the same areas of strength and weakness within a university like ours," Richmond said. "I think he comes from a background where he'll be able to pick up on those points more quickly than someone who doesn't come from a similar university."

Paul Martinelli, program manager for extension services and a member of WVU's Staff Council, was pleased Armstrong addressed all of the University's different constituencies.

"When someone starts mentioning staff as being an integral part, it gets my attention, and he's done that," he said. "I'm very impressed with the fact that he knows what staff does."

After serving on several search committees at WVU, Martinelli finds the provost finalists especially impressive.

"The search committee and president, are going to have a tough, tough time choosing," he said.

BRNI teams with brain specialists for research

By Ben Adducchio

The Blanchette Rockefeller Neurosciences Institute at WVU is working with the Brain Injury Group to establish a brain bank and explore how head injuries correlate with neurological diseases.

BRNI and the specialists will study the full effects of Chronic Traumatic Encephalopathy, or CTE.

Known as “punch-drunk syndrome,” CTE is prevalent among athletes who suffer repeated concussions and blows.

A similar injury, traumatic brain injury, or TBI, occurs in troops serving in Iraq and other countries.

The Brain Injury Group has studied CTE extensively, and will work with BRNI to develop new ways to prevent brain trauma and its lasting consequences.

Dr. Bennet Omalu is a member of the Brain Injury Group.

“The major way to move science forward is through collaboration,” he said.

“Our vision is to develop treatment for this disease, if not treatment, prevention.”

BRNI and the specialists will also study how CTE and similar diseases affect the brain.

They will research how this and similar injuries possibly leads to Alzheimer’s disease and dementia.

BRNI and the Brain Injury Group will also develop a brain bank at BRNI.

Brains of athletes and others who suffered from CTE and similar disorders will be observed and studied.

The brains will be tested for possible treatments. Omalu studied the brain of late NFL player Mike Webster, who was discovered to have CTE.

Omalu says it’s very important to study brains because the disease can be difficult to observe.

“His brain looked normal, by naked eye examination,” he said.

“But when you subject this brain with a very sophisticated tissue analysis on a microscopic level,” he said, “you can see the large buildup of abnormal proteins that should not be in the brain of a normal person.”

In a statement, BRNI founder Sen. Jay Rockefeller (D-WV) said this collaboration will unravel the human mind's unknowns and have an impact on families, athletes and soldiers.

BRNI is the world's only non-profit institute dedicated to the study of both human memory and diseases of memory.

It's named for his mother.

Marshall University creates a sustainability department

BILL ROSENBERGER, The Herald-Dispatch

HUNTINGTON -- The \$5 "green fee" Marshall University students approved last November in a special vote has been put into action.

On Wednesday, university officials announced the creation of a sustainability department. Leading the environmental and energy efficiency effort is Margie Phillips, who has served as the university's energy analyst for more than 12 years.

Phillips will be involved in all aspects of sustainability on campus, from purchasing decisions to landscaping and cleaning products to lighting fixtures. She said she is particularly excited to work with environmentally-passionate students to develop worthwhile energy-saving initiatives.

"My pledge is to continue to research and develop methods to save energy while enhancing and preserving the environment for our community," Phillips said. "I've seen the desire to be environmentally responsible in our students. I hear it in the voices of our faculty and staff. And I know we can work together to discover feasible ways to lessen the environmental footprint of the university."

Mark Cutlip, director of Marshall's Physical Plant, says Phillips' promotion is a natural progression for her and a great fit for the university.

"She has been tracking utility usage and researching ways to save on utility costs since she started at Marshall," Cutlip said. "She has saved the university thousands of dollars and has obtained several grants to finance energy efficiency projects."

Phillips said she has been working to save the university money since 1997 by looking at different avenues for energy costs. Utility rates, which could be increased again this year or next, have always played a big part in Phillips' work. She said her new role changes her from behind-the-scenes person to out working with students more and publicizing what the department is doing.

"There have been grants I've been able to obtain, and the university has always put money into saving our energy costs," she said. "This will further that. I don't think the students really ever realized the stuff I was doing. Now they'll get to work with me."

The new green fee will fund a portion of her salary. The fee, which was proposed by members of the Student Sierra Coalition and the Student Government Association during an SGA-sanctioned election in 2008, will generate about \$75,000 each semester and also will be used to fund sustainability projects on campus. A group of students, faculty and staff, called the Greening Marshall Committee, will recommend projects to Phillips.

Phillips said the group met Tuesday for the first time and is planning to start recycling in student services.

"(The students) are number one," she said. "There won't be a success if the students don't back this position."

Marshall President Steven Kopp, who recommended the green fee to the Board of Governors for approval, said the sustainability department will help the university look for ways to conserve water and energy, reduce waste and incorporate green technologies and materials into its planning and operations.

"Universities can have a significant, positive impact on the environment through the incorporation of sustainable practices. We are under increasing pressure from our governments, students and communities to lessen our environmental footprint and we take that obligation seriously," Kopp said. "It is important for Marshall to have an accessible office with a leader who will keep us moving forward as we look for ways to become more environmentally sustainable."

Kopp said the initiative will go much further than which light bulbs are used and how much paper can be recycled.

"Those things are important, but I am certain that the economic, social and environmental benefits of a sustainable Marshall University will reach far beyond the physical boundaries of our campuses and into our communities, region and, ultimately, our state," he said.

Marshall to get part of \$2.6 million grant

The Herald-Dispatch

HUNTINGTON -- Marshall University will receive \$1.1 million of a \$2.6 million grant from the National Science Foundation that was given to the West Virginia Higher Education Policy Commission.

The money is part of a cyberinfrastructure award that was announced earlier this week by Gov. Joe Manchin and U.S. Sen. Jay Rockefeller. It will assist with scientific discovery by building capacity and promoting the use of high-performance computing cluster resources.

At Marshall, that means using the funds over a three-year period to help upgrade computing networks at Drinko Library and enhance the new visualization equipment the university acquired this year with an economic development grant.

In addition to the research equipment that will be provided through the grant, the project will help develop a work force that can create and sustain cyber-based systems, tools and services. A network of faculty and information technology professional staff will be developed at Marshall to help researchers expand the use of high-performance computing and advanced visualization in their work.

The award was funded under the American Recovery and Reinvestment Act of 2009.

MU class aimed at high schoolers

BILL ROSENBERGER, The Herald-Dispatch

HUNTINGTON -- College can be an overwhelming experience for a freshman. But a new Marshall University program aimed at high school students might help bridge the gap.

Last week, the university debuted its free online course, How to Succeed in College, which allows high school students to experience an online learning environment. It also strives to help them with many of the stepping stones between the senior year of high school and the first year of college.

The noncredit course is open to anyone, including parents, teachers and counselors. St. Joseph Central Catholic High School counselor Karen Appell already has committed to using it this year in the senior communications course, which is a requirement for all seniors and focuses on college preparedness.

Appell said the course's content will help St. Joe students in the future. All 25 seniors, she said, will complete the online course as part of the communications class.

"It's all about succeeding," she said. "We don't just want them to graduate from high school and go to a four-year school. We want them to finish college. The more tools we can give them, the better their success will be."

Students finishing college is still a major hurdle for Marshall University and the state.

In the past decade, the average percentage of all college freshmen in West Virginia who returned for a sophomore year ranged from 77 percent to 79 percent, according to the West Virginia Higher Education Policy Commission. At Marshall, that percentage has been lower, ranging from 70 to 75 percent since 1991, according to data provided by the university. The past couple of years, those returning for their sophomore year have been around 71.5 percent.

Michael McGuffey, the director of the Office of Institutional Research and Planning, said in a recent report that about 45 percent of freshmen were graduating from Marshall with an undergraduate degree within six years.

Kelli Mayes, Marshall's director of the Technology Outreach Center, developed the online, noncredit class with the hope that high school students have an easier trek to college graduation by succeeding during the first year.

"We wanted students to be more comfortable in the online learning environment," Mayes said. "And create a course that also helps them with their college career."

The class has been in the works for about a year, with the intent of helping high school students who are taking online college courses at Marshall. But it became apparent that its audience was much broader.

In fact, Mayes said her office has received a lot of calls and e-mails from educators from around the country who received a digital postcard about the new course.

"I've been talking to a lot of high school counselors ... a lot about setting it up so an entire class can take it," added administrative assistant Suzanne Webb.

There are 11 units and an evaluation, which takes about a semester to get through. The class has an open enrollment, and Mayes said students aren't required to complete every unit. They may have interest in information presented in only one or two units, such as financial aid and scholarships or time management and student life.

Mayes also hopes that high school sophomores and juniors can take and finish the course before they graduate because she believes the information will turn out to be a valuable tool for college newcomers.

"In the long term, we hope it makes students comfortable taking other online courses at Marshall and be more successful when they do go to college," Mayes said.

Program to promote involvement of commuter students

The Herald-Dispatch

HUNTINGTON - Marshall University has created a new program to promote the involvement and success of its commuter students.

The goal is to get commuter students, those who travel to campus each day for classes, involved in activities that will connect them more with campus life. About 76 percent of Marshall students commute.

"Too often commuter students maintain the same friendships, the same habits, the same social contacts, and the same daily schedule they maintained in high school," said Steve Hensley, Marshall's dean of student affairs, in a news release. "The risk in this lifestyle is that students may miss some of the most important parts of college - expanded social contacts, including making new friends from all over the state and country, and even other countries. Student organizations enrich the lives and careers of students, but students have to be on campus to be a part of this."

As part of Welcome Weekend a Commuter Student Reception will take place at 3:30 p.m. Friday, Aug. 21, in the lobby of the Memorial Student Center on the Huntington campus. A Commuter Ice Cream Social is planned from 8 to 9 p.m. that same day in the Twin Towers East Dining Hall.

Commuter Welcome Weekend is the following weekend, Friday and Saturday, Aug. 28-29.

All commuters are invited.

August 31, 2009

New Criminal Justice Training Center Opens In Gilmer County

MetroNews, Glenville, Gilmer County

Glenville State College students in criminal justice will be training alongside others preparing to work in West Virginia's prisons and regional jails at a new facility in Gilmer County.

The Morris Criminal Justice Training Center in Glenville was officially dedicated on Monday afternoon with the help of Governor Joe Manchin, Department of Military Affairs and Public Safety Secretary James Spears and Glenville State President Peter Barr.

"Bringing this type of training facility to Glenville is a tremendous benefit," Barr told MetroNews on Monday. Students will be able "to actually train with practitioners and, not only get the theoretical knowledge in the classroom, but to come out with the practical experience and the certifications."

The facility is the result of a joint partnership between Glenville State and the state Department of Military Affairs and Public Safety.

Ike and Sue Morris of Glenville were part of the effort to convert an old shoe factory into the training site for those who will someday work in jails, prisons and juvenile services.

September 1, 2009

Doctoral Students Think Teaching Assistantships Hold Them Back

By Peter Schmidt

A new survey of recent Ph.D. recipients has found that more than four out of five of those who received paid teaching assistantships believe that having them prolonged their doctoral education, though not enough to keep them from completing the programs in a timely manner.

The perceived impact of research assistantships on doctoral students' progress, on the other hand, varied by academic field, according to a report on the survey's findings being released Tuesday by the Council of Graduate Schools. Ph.D. recipients in mathematics, engineering, and the sciences generally reported that having research assistantships actually helped them get through doctoral programs more quickly, while just over half of Ph.D. recipients in the social sciences and humanities said that having research assistantships lengthened the time they needed to complete their doctoral studies.

The survey results are based on responses from about 1,400 graduates of doctoral programs at 17 institutions in the United States, as well as the University of Montreal. The Council of Graduate Schools conducted the surveys from 2006 to 2008 as part of its Ph.D. Completion Project, an effort to try to improve the graduation rates of doctoral students by studying the factors that influence their retention and the effectiveness of various efforts by universities to keep them on track.

Among its other findings, the survey determined that the top reason Ph.D. recipients cite for having chosen their doctoral program is the reputation of the program or its faculty. Nearly all of the survey's respondents had financial support for their doctoral education, and four-fifths cited such support as a major factor influencing their ability to complete their studies.

Nearly two-thirds of respondents cited the mentoring they received as one of the main factors that helped them complete their doctorates, and 90 percent described themselves as highly satisfied with the quality of their relationship with their mentor.

Interestingly, many students believed their home lives played a role in their academic success, with 57 percent of respondents citing nonfinancial support from their families as one of the main factors enabling them to earn a doctorate. Robert S. Sowell, who oversees the Ph.D. Completion Project as the council's vice president for programs and operations, said in an interview that "there is not a great deal that the universities can do" to improve such family support, "but clearly it is very important to students."

The full report, "Ph.D. Completion and Attrition: Findings From Exit Surveys of Ph.D. Completers," is available for purchase at the Ph.D. Completion Project's Web site.

The Council of Graduate Schools plans to publish additional reports summarizing the impact of various efforts to improve Ph.D. completion and offering a comprehensive analysis of all of the Ph.D. Completion Project's findings.

5 College Majors On the Rise

By Karin Fischer and David Glenn

For the most part, tomorrow's bachelor's-level majors will look very much like those offered by colleges today. But in interviews with The Chronicle, academic experts, business analysts, and economic forecasters helped identify five emerging areas of study.

Some new majors arise in response to student demand, while other degree programs are meant to provide an industry with workers. Many cross disciplinary boundaries, such as combining environmental science with agriculture or bringing together chemists and computer scientists.

"Most of the interesting work today is done at the interstices of disciplines," says Robert B. Reich, a former U.S. labor secretary and a professor of public policy at the University of California at Berkeley.

Here is a look at five up-and-coming majors you are likely to see at more colleges in the coming years.

Service science

On the average day, the typical American uses services 40 times, from turning on the faucet in the morning to turning out the lights at night. "The new service economy is not just people flipping burgers," says Roland T. Rust, executive director of the Center for Excellence in Service and a professor of marketing at the University of Maryland at College Park.

Although the service sector makes up fully 80 percent of the economy, there has been little effort to study service as a science or to prepare workers who can improve productivity and increase innovation in the sector.

That's changing. Now 250 colleges and universities in 50 countries offer degrees or courses in a nascent field known as service science, management, and engineering. A coalition of companies, universities, and research institutions is developing content standards for such programs, says James C. Spohrer, director of global university programs at IBM, one of the lead partners.

So far, most of the offerings are at the graduate level. But a pair of undergraduate programs at U.S. institutions highlight two approaches to the study of service.

The University of Wisconsin-Stout's bachelor's of science in service management takes a business-centric tack. Students take courses in service operations, service marketing, and electronic services, says Joseph W. Holland, the program director, and typically go on to management-track jobs in fields such as finance, hospitality, and information technology.

Service-systems engineering at Michigan Technological University is more akin to industrial engineering, says Dana Johnson, an associate professor of operations management who teaches in the program, which focuses on service instead of on the production and manufacture of goods.

Graduates, the first of whom will earn their degrees next spring, could find ways to streamline emergency-room operations at hospitals, shorten lines at bank-teller windows or tollbooths, or improve the delivery of products worldwide. One of the biggest potential service-engineering challenges, says Amlan Mukherjee, an assistant professor of civil and environmental engineering, could come with the passage of health-care-reform legislation.

Mr. Spohrer, of IBM, argues that future programs need to more closely link the business and engineering approaches to service to prepare "deep problem solvers" who understand the economic, human, and technical dimensions of complex systems.

Health informatics

There are few attention grabbers like a pledge of \$19-billion.

That's the amount included in the economic-stimulus package passed this year to computerize every American's medical records by 2014. Some of the federal funds will go to doctors and hospitals, but a share will go to colleges to train health-care workers who will use the electronic databases.

"I talked to three programs just yesterday," says Claire Dixon-Lee, executive director of the Commission on Accreditation for Health Informatics and Information Management Education. The commission has accredited 270 programs, including 53 at the bachelor's level, and Ms. Dixon-Lee expects the number to rise to 300 by the year's end.

With the proliferation of degrees has come great variety in the curricula and even in what such course work is called, Ms. Dixon-Lee says. Health-information management has been around for decades, with bachelor's-degree programs at institutions like East Carolina University that train medical-records administrators and librarians.

But the move to bring those records online has led to significant curricular changes. The digitization of medical information has spurred growth in data analytics. Walgreen's headquarters, near Chicago, employs eight people in health-data analysis, Ms. Dixon-Lee says.

David D. Potenziani, senior associate dean for planning, coordination, and administration at the University of North Carolina at Chapel Hill's School of Public Health, says he hears regularly from physicians and hospital directors who want to hire information-technology workers with a strong understanding of health-care delivery systems, and from public-health agencies who need specialists who can make sense of data, such as medical-reimbursement records, to ground policy recommendations. The university is considering what kind of health-informatics program it might offer.

"We're drowning in data," Mr. Potenziani says, "and we don't know we're wet yet."

Computational science

What does the design of a potato chip have to do with weather forecasting? Both are products of computational science, the use of computer modeling and simulation to advance other fields.

Computational science is sometimes confused with computer science, says Robert E. Tuzun, an associate professor and chair of computational science at the State University of New York College at Brockport. But in computer science, the computer is the object of study, Mr. Tuzun says, while in computational science, the computer is the tool.

Meteorologists and atmospheric scientists use computer modeling to predict weather, study severe storms, and better understand climate change. In biology, computers are used to map the functions of different organs, learn about genetic abnormalities, and help conceive new medicines. Companies have used computational analysis to increase the absorbency of disposable diapers and to tweak the shape of potato chips so they drop into packages rather than fly off the conveyor belt.

"It's a modern way to solve problems," says Rubin H. Landau, emeritus professor of physics at Oregon State University, who started the computational-physics program there.

Programs typically include advanced mathematics, computer science, and simulation and modeling, along with courses in specific scientific fields, like chemistry or engineering. Indeed, a number of current undergraduate programs, like the one at Oregon State, are focused on particular fields of study or are offered as concentrations or minors.

Sustainability

Colleges across the country have embraced sustainability, seeking to make their campuses more environmentally friendly. Now, spurred in large part by student demand, colleges are greening their curriculum, too: Some 70 institutions have sustainability-related academic programs, according to the Association for the Advancement of Sustainability in Higher Education.

There is no single approach to a sustainability degree, says Julian Dautremont-Smith, the group's associate director. Some colleges have married sustainability studies with traditional liberal-arts majors, like economics, while others have developed green architecture and business degrees. Still other institutions prepare graduates to become sustainability scientists or environmental professionals. And beginning last fall, students at the University of New Hampshire can enroll in an undergraduate program in ecogastronomy, combining the fields of sustainable agriculture, hospitality, and nutrition.

The federal government has also gotten involved. This spring NASA awarded \$6.4-million in climate-change-education grants to higher-education groups, as well as elementary and secondary educators, that make use of the agency's earth-science data and resources. One recipient, the National Council for Science and the Environment, a nonprofit group, is crafting a virtual tool chest of lesson plans and resources for colleges interested in teaching about climate change.

At Unity College, in Maine, the three-year-old program in sustainability design and technology has a practical bent. "We didn't want to take an ivory-tower approach," says

Michael (Mick) Womersley, the program's coordinator and an associate professor of human ecology. "We focused on jobs that are being hired for, now."

The major is heavy on applied skills, like learning how to assess the feasibility of installing wind turbines, and is grounded by a core of physics, biology, and math. Mr. Womersley expects that his students—he has 12—will go on to become energy auditors, environmental-compliance officers, and sustainability coordinators, as well as enrolling in related graduate programs.

Public health

In a 1987 essay titled "Epidemiology as a Liberal Art," David W. Fraser, who was then president of Swarthmore College, argued that the study of public health offered an ideal way to teach about medicine in an undergraduate setting.

Two decades later, Mr. Fraser's essay seems prophetic. At least a dozen institutions have recently created undergraduate public-health majors. (Some of these, including fledgling programs at Yale University and the University of Virginia, are five-year hybrids that lead to both a bachelor's and a master's degree in public health.) Between 2003 and 2007, the number of bachelor's degrees awarded in public health doubled, increasing from 1,322 to 2,639.

"What I like about this major is that it will give me the science background I need to go into almost any health field," says Sarah D. Ali, a junior in the University of South Carolina's bachelor-of-science program in public health, which enrolled its first students in 2008.

The major will almost certainly continue to expand. But there may be a natural ceiling on its growth, says Richard K. Riegelman, a professor of epidemiology at George Washington University. Dr. Riegelman is a prominent advocate of undergraduate public-health education. His enthusiasm, however, focuses on minors and concentrations in public health, which have exploded recently. At least 100 institutions now offer such minors, according to a 2008 survey by the Association of American Colleges and Universities.

"The major itself is trickier," Dr. Riegelman says. "Institutions without graduate programs in public health generally don't have the infrastructure to support a major. ... And there still isn't a solid sense of how to articulate course requirements between the undergraduate majors and M.P.H. programs." (The master's-level programs generally require upper-level courses in statistics, public policy, and research methods that go beyond anything in the undergraduate majors.)

But G. Thomas Chandler, dean of public health at South Carolina, says he expects such programs will continue to sprout. "Our undergraduate courses are very well subscribed," he says, "and I've gotten a lot of positive feedback from students. They see public health as something relevant. And the national health-care debate has helped us immensely."

Professors Embrace Online Courses Despite Qualms About Quality

By Marc Parry, Washington

They worry about the quality of online courses, say teaching them takes more effort, and grouse about insufficient support. Yet large numbers of professors still put in the time to teach online. And despite the broad suspicion about quality, a majority of faculty members have recommended online courses to students.

That is the complicated picture that emerges in "The Paradox of Faculty Voices: Views and Experiences With Online Learning," part of a two-volume national study released today by the Association of Public and Land-Grant Universities—Sloan National Commission on Online Learning.

The major survey of public colleges and universities found that 70 percent of all faculty members believe the learning outcomes of online courses to be either inferior or somewhat inferior, compared with face-to-face instruction.

Professors with online experience are less pessimistic. Among those who have taught or developed an online course, the majority rated the medium's effectiveness as being as good as or better than face to face. But in a potentially controversial finding, even among professors who have taught online, fully 48 percent feel it is either inferior or somewhat inferior.

The picture gets more complicated when it comes to what professors do, rather than only perceive. The majority of those who feel the learning outcomes of online education are somewhat inferior have recommended online courses to students.

The debate about the quality of online instruction is nothing new. But the scale of this study makes it significant. Responses came from more than 10,700 faculty members at 69 public colleges and universities across the country, a sector that accounts for much of the rapidly growing online market.

Recognition Deficit

When it comes to universities' support for online learning, the report showed broad faculty dissatisfaction. That was especially the case regarding incentives for developing and teaching courses. Also rated poor: recognition for online work in tenure and promotion.

Jack M. Wilson, president of the University of Massachusetts and chairman of the commission that issued the report, described the findings about online support for such learning as "a call to action." when asked about them in a conference call with reporters.

"Institutions are going to have to do a better job of providing the support to the faculty—and, by the way, to the students as well," said Mr. Wilson.

The report also punctures the prevailing notion that older professors aren't as involved with online instruction. Veteran professors—those who have taught for more than 20

years—are teaching online at rates equivalent to less-experienced faculty members, it found.

The report raises many questions. Why do so many professors feel the online medium is inferior? And how inferior?

And why—given their quality concerns and belief that it takes more effort to develop and teach online courses—do so many do it?

More than 36 percent of faculty members have experience either teaching or developing an online course, according to the report, fresh evidence of the mainstreaming of online education. A large majority of survey respondents pointed to student needs as a "primary motivator" for teaching online.

Professors judge online education with somewhat different criteria, said Jeff Seaman, author of the report and a co-director of the Babson Survey Research Group, which carried out the survey for the commission.

"The access issues trump everything else," he said. "The ability to get somebody in a course that they would not ordinarily be able to take, to finish that degree, to pursue that career, to do whatever, is sufficient."

Tenure Issues

Even for online-learning enthusiasts, broadly held negative perceptions can have an influence. Tenured colleagues or department chairs will in some cases advise professors to give up their online teaching if they want to get on a tenure track, said Janet Poley, president of the American Distance Education Consortium.

"Because the perception is that, if the online teaching is going to take more time than face to face, what they should be doing is teaching face to face and getting their research projects started," Ms. Poley said. She added, "If the incentives aren't matched up administratively, then you're going to have people who at a minimum are frustrated."

The report argues that universities will need to involve a larger share of the faculty to meet the continued demand for online programs. And to do that, it says, "they will need to find ways to address the time-and-effort issue and make it as easy—and as rewarding—as possible for faculty to engage in online learning."

One veteran distance-education researcher argued that faculty members require instructional-design help but questioned the need for financial carrots.

"I don't necessarily believe that I need additional incentives beyond strong support," said Chère Gibson, a University of Wisconsin at Madison professor emerita. "Nobody paid me the first time to develop my face-to-face class."

Thomas L. Russell maintains a Web site called The No Significant Difference Phenomenon that compiles studies comparing distance and traditional education. He chalked up professors' negative online perceptions about online learning to a different source.

"I think deep down inside they don't want it to replace them," he said. "They're fearful."

classes without penalty was extended to May 15 this year, according to information on the university website.

Community College a Research Puzzle Few Studies Can Inform Obama's \$12 Billion Initiative

By Debra Viadero

When President Barack Obama unveiled his plans this summer for a \$12 billion federal investment in the nation's community colleges, he said he wanted the initiative to yield an additional 5 million community college graduates by 2020.

Research suggests that reaching that goal may be a tall order.

Community colleges have abysmal graduation rates: Only one in 10 students who started community college in 2002 had earned an associate's degree three years later, according to a recent paper from the Washington-based Brookings Institution. Six years after they start school, other studies show, half of community college students have earned an associate's degree or a certificate or transferred to a four-year college.

Further, studies have only just begun to shed light on where the barriers are for students and how colleges can help students overcome them.

"In the K-12 space, people are often frustrated by the state of data, the caliber of scholarship, and the weak presence of reform agents," said Frederick M. Hess, the director of education policy studies at the American Enterprise Institute, a Washington think tank. "They're actually living in nirvana compared to the higher education spaces."

While Mr. Hess suggests that the Obama administration may be throwing money down a black hole with its American Graduation Initiative, other scholars say that assessment only points out the urgent need for more attention to community colleges.

Founded 50 years ago in response to President Harry Truman's call for a national network of community colleges to expand learning opportunities for veterans returning from World War II, community colleges now represent the largest part of the nation's higher education system, collectively enrolling 11 million students, or 40 percent to 45 percent of all college undergraduates.

The publicly funded institutions serve different purposes. They can be stepping stones to four-year degrees for first-time college students looking to transfer to a four-year college or a source of occupational and technical training for older adults seeking associate's degrees or certificates. They also offer noncredit courses in areas ranging from computer skills to English-language instruction.

Because of their low tuition rates and open-enrollment policies, community colleges offer the only chance of earning a college degree for many low-income students, first-generation immigrants, minority students, and laid-off workers. That's important in the larger economic scheme, experts say, because studies show that students, especially women, with even one year of postsecondary study earn 15 percent to 20 percent more than students whose educational careers ended at high school.

Long Neglected?

But researchers and federal policymakers have long neglected community colleges, focusing instead on improving K-12 education, said Thomas Bailey, the director of the Community College Research Center at Teachers College, Columbia University.

“Up until 10 years ago, people thought our higher education system was the best in the world,” he said. But as recent studies have begun to show the United States falling behind some other developed nations in producing college graduates, he added, “people have begun to realize that, yes, while we have a lot of students coming from around the world to attend our Ivy League and flagship schools, our typical institutions don’t seem to be doing so well.”

That realization has prompted a number of national foundations, including the Lumina Foundation, of Indianapolis, the Seattle-based Bill & Melinda Gates Foundation, and the Carnegie Foundation for the Advancement of Teaching, in Stanford, Calif., to invest millions of dollars over the past five years in new initiatives and new research aimed at improving community colleges.

Those studies show that a major hurdle to a college degree for many students are the remedial—now called developmental—classes that students take to bring their academic skills up to the college level. Mr. Bailey said 60 percent of community college students enroll in at least one such class. The percentage of students who are actually referred to developmental classes is even higher, Mr. Bailey said.

According to his calculations, 44 percent of students took one to three such classes, and 14 percent took three or more.

Yet just a small fraction of those students pass the developmental courses, for which they do not receive credit, and go on to take the classes that count toward a degree or certificate. In a recent paper published by his center, Mr. Bailey estimates that only 44 percent of students referred to developmental reading classes, and 31 percent of those who tested into remedial math, complete their recommended developmental-course sequence within three years.

“When you’re told that you’re not reading and writing at college level, it’s a really difficult first start at college,” said Rachel Singer, the director of academic affairs at the 16,000-student Kingsborough Community College in the Brooklyn borough of New York City, which has been working hard to boost its student-retention rates.

Finding What Works

But only a handful of studies—a “meager harvest,” in the words of one researcher—point to promising strategies for helping students past that crucial hurdle.

“We truly don’t know how to improve students’ success right now,” said Sara Y. Goldrick-Rab, an assistant professor of educational policy studies and sociology at the University of Wisconsin-Madison. She was one of four co-authors of the Brookings white paper that helped lay the groundwork for President Obama’s initiative. Both the paper and the president’s program call for more research on effective strategies for student remediation.

Kingsborough College, however, has had some success by creating integrated “learning communities,” groups of 25 students who take three classes together: a remedial

course, a college-level course, and a study-skills class. The instructors also work together to create integrated assignments, and one doubles as a case manager or mentor for the students.

A two-year, random-assignment study of the program by MDRC, a research group in New York, found that learning-community students were more likely than peers in traditional classes to persist in school, take more courses, and pass the developmental English tests they needed to graduate.

In Washington state, community college educators also seem to be making headway with a program known as I-BEST, for Integrated Basic Education and Skills Training, in which a basic-skills instructor and a college-level vocational instructor team up to teach the same class.

“They try to literally bring the developmental instruction right into the subject area that students want to learn, whether that’s nursing or some other career,” said Tom Brock, the director of the young-adults and postsecondary education policy area at MDRC. “So you’ll learn about anatomy and you’ll learn about writing in the context of what’s needed in a medical office.”

In an analysis of two years of data on 31,000 basic-skills students in Washington state’s public vocational and community colleges, Teachers College researchers found that I-BEST students were 23 percentage points more likely to earn at least one college credit than counterparts who were not in the program, and 40 percentage points likelier to earn a vocational certificate.

‘Limited’ Successes

Experts say other schools are experimenting with “summer bridge” programs to help community college students get up to speed before they set foot on campus, dual-enrollment programs that allow high school students to get a leg up on college-level study, drop-in “academic success” centers where students can get individual tutoring, and early-warning systems that allow high school students to take college-placement exams so that they can be alerted to weaker skill areas.

Some states, such as Florida, are also working to better align community college and four-year college systems to make it easier for students to transfer credits toward a four-year degree.

“My impression has been that work on remedial education has had some successes—but also somewhat limited successes—and has been particularly less effective with younger students,” said James E. Rosenbaum, a professor of education and social policy at Northwestern University, in Evanston, Ill.

His research suggests that community colleges might be better off taking a cue from private two-year colleges, such as DeVry University or ITT Technical Institute, which on average have graduation rates that are 20 percentage points higher than those for community colleges.

“Community colleges are big on choice exploration, delaying decisions about your major, and getting a lot of diversity in your first studies,” Mr. Rosenbaum said. “Private two-year colleges help students make a decision quickly at the outset and then have a

very set curriculum. You don't make mistakes. You don't waste time, and it doesn't take you longer to get a degree."

The best private postsecondary schools, he said, also cut out vacation time, schedule classes in ways that are more compatible with maintaining a regular work or child-care schedule, and mandate student-counseling sessions.

Carol Lincoln, the national director of Achieving the Dream, an improvement initiative involving 102 colleges and universities, said another lesson some of the community colleges have learned is that they can retain more students by providing emergency financial aid.

"Even though many students have Pell Grants, when the car breaks down or they have child-care problems, money becomes an issue," she said.

A major focus of the Chapel Hill, N.C.-based Achieving the Dream, which was launched with seed money from the Lumina Foundation in 2003, has been to encourage community colleges to collect and analyze data on their students so that they can craft improvement strategies tailored to their own communities.

Gathering better data—a first step for any kind of research effort—is a key plank in the Obama initiative. The president's proposal also calls for establishing a new research center, providing grants for innovation, setting aside \$2.5 billion to spur facility-modernization efforts, and creating an online skills laboratory for students.

"This is not a sector that needs to be motivated," said the University of Wisconsin's Ms. Goldrick-Rab. "Community colleges are so understaffed and underresourced that I think the major fear is that they are going to be asked to do more and not given the resources to do it."