

Bloom and Gallagher are tapped for key posts

President Obama on Sept. 7 named Ron Bloom to serve as the administration's senior counselor for manufacturing policy, and said on Sept. 10 that he will nominate Patrick Gallagher to be the new director of the National Institute of Standards and Technology (NIST).

Bloom, who will work closely with the National Economic Council and provide leadership on policy development and strategic planning for the president's agenda to revitalize the manufacturing sector, retains his role as senior advisor to the Treasury Secretary assigned to the President's Task Force on the Automotive Industry.

If confirmed by the Senate, Gallagher, 46, would become the 14th director of NIST, which Commerce Secretary Gary Locke called "a unique agency with a strong culture of world-class scientific achievement."

"Pat Gallagher has come up through the ranks, and his continued leadership will be critical to an agency that's central to the nation's ability to innovate and compete in global markets," Locke added.

Bloom will work with federal agencies including Commerce, Treasury, Energy and Labor to try to integrate existing programs and develop new initiatives affecting the manufacturing sector, said the White House.

"Last week we learned that our manufacturing sector expanded for the first time in 18 months and had the highest monthly output in two years," President Obama said Sept. 7. "It's a sign that we're on the right track to economic recovery, but that we still have a long way to go. That's why I've asked Ron Bloom to help coordinate my

Inside:

- NASA, Canadian Space Agency agreement
- NSF analysis finds declines in MSI funding
- US-Ireland innovation ecosystem partnership
- House passes various energy r&d bills
- NAE study of K-12 engineering education
- ARS scientists sequence potato pathogen
- State Dept. funds 11 IP enforcement projects
- FCC seeks more members for technology panel
- NSB issues sustainable energy report
- ARS research goes to pot!
- DHS headquarters groundbreaking ceremony
- ARS scientist is stuck on corn germ meal!
- ED priorities for post-secondary education
- ARS, NOAA collaboration on fish toxin

Technology licenses: NASA, I.
Upcoming: NIST & NIH bio-imaging event
People in the news

administration's manufacturing policy. Ron has the knowledge and experience necessary to lead the way in creating the good-paying manufacturing jobs of the future. We must do more to harness the power of American ingenuity and productivity so that we can put people back to work and unleash our full economic potential." [Continued, page 11]

NASA, ESA sign MOU

A Memorandum of Understanding (MOU) between NASA and the European Space Agency (ESA) for cooperation in the field of space transportation was signed by NASA administrator Charles Bolden and ESA director general Jean-Jacques Dordain last week at NASA Headquarters.

"From shuttle Spacelab missions to the International Space Station, ESA has a long history of participating with NASA in human spaceflight," Bolden said Sept. 11. "With this

agreement, it's our intent to continue to build this relationship, sharing valuable engineering analyses and technology concepts that will help transport humans to low Earth orbit and beyond."

The MOU will allow NASA and ESA to exchange technical information and personnel, which will aid the eventual development of new transportation systems. It's expected that ESA's Ariane 5 development and flight experience will provide valuable engineering analyses and technology concepts for NASA's new launch and spacecraft systems.

"This MOU marks a new milestone in the already very strong and long-lasting cooperation between ESA and NASA," noted Dordain. "The exchange of technical information this [agreement] allows in the fields of space transportation will be beneficial to both agencies and will facilitate our work toward future launch systems, human spaceflight and exploration missions."

Exchanges of information will provide NASA with assistance in a number of areas, including: composite material technology; development of payload shrouds; and management of propellants in spacecraft propulsion systems used for transit to and from lunar orbit.

NASA, Canada agreement

A framework agreement for US-Canadian cooperative activities in the exploration and use of outer space for peaceful purposes was signed by NASA administrator Charles Bolden and Canadian Space Agency president Steve MacLean at a ceremony last week hosted by Canada's Ambassador to the US Michael Wilson at the Canadian Embassy in Washington DC.

"NASA is very proud of its long and outstanding relationship with Canada, one that's been nurtured during the past four decades with increasing collaboration in a wide range of space science and exploration activities," Bolden said Sept.9. "As NASA continues to enhance the scientific

observation of our planet and the solar system, we're looking to Canada and our other international partners to play key roles in our future exploration plans."

An important step in an evolving process for a coordinated and comprehensive approach to space exploration and use of outer space, the framework agreement sets out general terms and conditions that will be applied to future cooperative projects and facilitates expanded cooperation between the US and Canada on a range of activities related to human spaceflight, exploration, space science and Earth science.

"The US has been a critical partner for Canada ever since launch of the *Alouette-1* satellite in 1962," said MacLean. "From these early beginnings, we've worked together to forge a space alliance that's become a catalyst, driving generations of space expertise, innovation, science, and technological excellence through our participation in space projects that continue to serve the interests of both our nations."

MSI s&e funding declines

Federal agencies gave less science and engineering (s&e) funding in FY07 to academic institutions that serve primarily minority students, according to a new National Science Foundation (NSF) report released Sept.8. It found declines in funding at minority-serving institutions (MSIs) in FY07 outpaced decreases among all academic institutions

Historically black colleges and universities (HBCUs) received \$406-million in federal s&e dollars in FY07, their lowest annual funding total since FY01. It was the second year in a row that HBCUs saw a drop in funding of s&e programs, and represents an 8.6% drop from the previous reporting year in inflation-adjusted dollars.

In addition, high-Hispanic-enrollment (HHE) institutions received \$594-million in federal academic s&e support, a 1.6% decrease over the total received in FY07 by HHE institutions in inflation-adjusted

dollars.

The eight-page *InfoBrief* [NSF 09-319] by NSF analyst Richard Bennof, found erratic funding for s&e programs at tribal colleges and universities. In FY07, such funds decreased by 13.2% to \$25-million, following a 20.4% decrease between FY05-FY06. However, funding for the previous reporting period between FY04-FY05 rose by 50.7%.

Academic s&e obligations come primarily from five federal agencies: NSF provides about 15%, Department of Defense 11%, Department of Agriculture 4%, and Department of Energy 3%. The largest share - 61% - is provided by the Department of Health & Human Services, mostly the National Institutes of Health (NIH).

Overall, federal agencies gave less money to all academic institutions in FY07 with the inflation-adjusted total declining 0.4% from FY06 levels. Federal r&d obligations to all universities and colleges totaled \$25.3-billion in FY07.

The report is at:

<www.nsf.gov/statistics/infbrief/nsf09319/nsf09319.pdf>

US-Ireland innovation

A program toward delivery of an innovation eco-system was agreed during a day-long summit last week at the Irish Embassy in Washington DC of the Silicon Valley-based Irish Technology Leadership Group (ITLG) and the Irish Innovation Alliance of Trinity College Dublin (TCD) and University College Dublin (UCD).

“The Irish government recognizes that investment in scientific research is vital to Ireland’s long-term economic and social development,” Ireland’s Ambassador to the US Michael Collins said at a reception after the summit.

Noting the importance of higher education working with industry, Ambassador Collins called the Innovation Alliance partnership with ITLG “a prime example of the collaboration which we’re keen to nurture and develop.”

During the Sept.10 summit four specific

actions were agreed:

- Creation of a \$100-million venture capital fund with a focus on high-potential Irish startups;
- An Irish Tech Center in San Jose, Calif., due to open in January 2010;
- Roll-out in October of the first Innovation Academy graduate training program; and
- A due diligence process to underpin a new joint venture in enterprise creation.

The summit, which was the second meeting between the groups since signing of a Memorandum of Understanding (MOU) in Dublin, Ireland in June, was attended by the MOUs three signatories ITLG chairman John Hartnett, TCD provost Dr John Hegarty, and UCD president Dr Hugh Brady, accompanied by their advisors.

At the summit’s conclusion, a joint communiqué was issued setting out their agenda for implementing collaboration between Ireland’s universities and Silicon Valley’s global technology companies, entrepreneurs and venture capitalists.

The venture fund, to be called Irish Technology Capital (ITC), will operate under the aegis of ITLG, and be co-led by Hartnett and Silicon Valley venture capitalist Richard Moran. The offices will be in San Jose and Dublin. ITC plans to attract investors and funds from the US and Ireland, as well as support from the Irish government and the Northern Ireland Executive.

Development of the Irish Tech Center at a site in San Pedro Square, San Jose, the capital of Silicon Valley, and will be led by former San Jose mayor Tom McEnery.

“We’ve set ourselves on a bold and ambitious path to translating Ireland’s smart economy into new opportunities to grow and develop using world-class Irish innovation and American know-how and capital as the drivers,” said Harnett on behalf of ITLG.

“Buoyed by the incredible support our initiative had already received from both sides of the Atlantic, we look forward to translating vital goodwill and hard capital into success in the mid-term.”

“The new actions agreed with ITLG are a major first step in realizing the goals of the

TCD/UCD Alliance,” said Dr Hegarty. “Connecting [with] Silicon Valley, the heart of innovation and venture capital, for both graduate training and business investment is a breakthrough for Ireland.”

“The multi-prong partnership between ITLG and the Innovation Alliance will drive a fundamental change in PhD training and business development that should establish Ireland as a European hotbed of innovation and enterprise creation,” added Dr Brady.

UCD and TCD educate 50% of Ireland’s undergraduates in science, engineering and technology as well as 50% of Ireland’s PhDs, and also account for 50% of Ireland’s research investment and research outputs. They have a strong record of collaboration in areas such as chemistry, molecular medicine, bioprocess engineering and digital research.

Their Innovation Alliance has two major components: the TCD/UCD Joint Venture in Enterprise Development, which builds on the universities’ existing tech-transfer operations and enterprise facilities; and the TCD/UCD Innovation Academy, which makes innovation the third arm of the universities’ mission alongside education and research.

House passes legislation

Two bills to advance energy r&d - HR 3165 and HR 445 - were approved by the House of Representatives by voice vote on Sept.9.

Authored by House Energy & Environment Subcommittee vice chair Paul Tonko, D-N.Y., the *Wind Energy Research and Development Act of 2009* [HR 3165] passed by voice vote. The bill directs the Department of Energy (DOE) to conduct a program of r&d to: improve the energy efficiency, reliability & capacity of wind turbines; optimize the design and adaptability of wind energy systems to the broadest practical range of atmospheric conditions; and reduce construction, generation & maintenance costs of wind energy systems.

The legislation authorizes \$200-million for each fiscal year (FY10-FY14), and would be the first law to set an authorization level for

wind r&d since DOE was created in 1977.

“The bill provides clear direction for the DOE to help the US expand wind-powered electricity generation,” said House Science & Technology Committee Chairman Bart Gordon, D-Tenn. The specific areas of r&d in the bill were identified in recent reports by DOE and the American Wind Energy Assn.

“The US has enough wind energy resources to meet all of our electricity needs several times over,” said Tonko, “but experience over the last several years has shown that many significant technical issues remain before wind can serve as a major provider of base-load electricity.”

Also approved was the *Heavy Duty Hybrid Vehicle Research, Development, and Demonstration Act of 2009* [HR 445], authored by Rep. James Sensenbrenner Jr., R-Wis., which boosts DOE’s heavy-duty hybrid truck research program.

“Utility trucks typically drive short distances to and from a work site, but sit idle for hours while on site,” said Sensenbrenner. “A plug-in hybrid truck would use less fuel getting to and from the site, and could operate without any fuel while on site. By switching to hybrid trucks, we can potentially lower the amount of fuel used by up to 60%.”

“The heavy truck sector accounts for approximately one-fourth of the nation’s fuel use and the majority of transportation-based emissions,” noted Chairman Gordon. “Even small improvements in their efficiency can have a substantial impact. Hybrid technologies hold the promise of greatly reducing the fuel consumed by the nation’s truck fleet.”

HR 445 directs the Energy Secretary specifically to establish a competitive r&d program to provide grants of up to \$3-million per year to carry out projects to advance r&d and to demonstrate technologies for advanced heavy-duty hybrid vehicles. Similar legislation [HR 6323] was passed by the House in the 110th Congress with strong support.

Two resolutions were also approved by the House last week: *Supporting the goals and ideals of National Aerospace Day* [H.Con.Res.167], sponsored by Research & Science Education Subcommittee ranking member Vernon Ehlers, R-Mich., and *Recognizing the remarkable contributions of the American Council of Engineering Companies for its 100 years of service to the engineering industry and the Nation* [H.Res.447], authored by Rep. Heath Shuler, D-N.C.

The first resolution recognizes aerospace industry contributions to US history, economy, security, and the educational system, by designating a National Aerospace Day on Sept.16.

“Workers in the aerospace industry have contributed to many scientific and technological breakthroughs in the US, including space flight, meteorological forecasting, and national security, as well as civil and commercial aviation,” Ehlers said last week. “It’s an important part of our economy, directly employing around 831,000 people and supporting more than two million jobs in other fields. I’m proud to recognize this industry and its important contributions to our nation.”

The second resolution congratulates the American Council of Engineering Companies (ACEC) on the important role it has played over the last 100 years.

“As one of the few engineers in Congress, I know that [ACEC] is the oldest and largest business association representing America’s engineering industry,” Tonko said in remarks on the House Floor. “It represents more than 5,000 engineering firms that employ 500,000 engineers, architects, land surveyors, scientists and others. Its members engage in a wide range of engineering work, including designing the infrastructure, energy, and technological projects that contribute to our economy and quality of life.”

Engineering education

K-12 engineering education has the potential to enhance student learning and achievement

in science and math, increase awareness of engineering as a possible career, and boost the technological literacy of students, according to a new report issued Sept.8 by the National Academy of Engineering (NAE) and the National Research Council (NRC).

“The problem solving, systems thinking, and teamwork aspects of engineering can benefit all students, whether or not they ever pursue an engineering career,” said US Davis chancellor Linda Katehi, who chaired the committee that wrote the report. “A K-12 education that doesn’t include at least some exposure to engineering is a lost opportunity for students and for the nation.”

The study’s findings and recommendations were the subject of a one-day NAE meeting that followed release of the document.

Main recommendations are that:

- NSF or the Department of Education fund research to determine how science inquiry and math reasoning can be linked to engineering design in curricula and professional development;
- Foundations and federal agencies with an interest in K-12 engineering education conduct long-term research to confirm and refine findings of studies of the impacts of engineering education;
- American Society of Engineering Education begin a national dialogue on preparing K-12 engineering teachers, and on the pros and cons of creating a formal credentialing process; and
- Philanthropic foundations or federal agencies with an interest in STEM education and school reform identify models of implementation for K-12 engineering education that will work for different American school systems.

The 220-page study, *Engineering in K-12 Education*, edited by Linda Katehi, Greg Pearson, and Michael Feder, was sponsored by Stephen Bechtel with support from NSF and Parametric Technology Inc., is available from <www.nap.edu>

ARS tackle spud pathogen

Agricultural Research Service (ARS) scientists and cooperators have sequenced the complete genome of *Phytophthora infestans*, the pathogen that caused the infamous Irish potato famine and the recent

loss of potato and tomato crops in the eastern US.

P. infestans is a fungus that causes late blight, the most destructive disease of potato, and it can also infect tomatoes and other members of the Solanaceae family. Once the pathogen attacks, there's little that a commercial grower or home gardener can do to save the crop, which can be destroyed in just a week. The pathogen also can mutate quickly and develop resistance to current fungicides, making it difficult to control.

The group responsible for examining and annotating the genes that produce enzymes to degrade a plant's cell wall was led by ARS plant pathologist Richard Jones at the agency's Genetic Improvement of Fruits and Vegetables Laboratory in Beltsville, Md.

Former postdoctoral researchers Stefano Costanzo and Manuel Ospina-Giraldo contributed to the research. Costanzo is now an ARS plant pathologist at the Dale Bumpers National Rice Research Center in Stuttgart, Ark., and Ospina-Giraldo is now on the faculty of Lafayette College in Easton, Pa.

Several groups of enzymes located close to each other on the genome of *P. infestans* were discovered by Jones and his research colleagues. The pathogen secretes these enzymes to attack the surface of the plant, allowing it to break through and begin feeding on the plant's nutrients. The scientists believe two of these groups may be used by *P. infestans* at the initial stage of infection.

The researchers were also the first to identify and report a unique pattern of gene segments, called *introns*, in the pathogen's genome that give it the ability to produce different proteins from the same gene and attack different compounds within the plant cell wall. According to ARS researcher Jones, this may further explain how the late blight pathogen is so successful in attacking plants.

ARS is USDA's principal intramural scientific research agency.

State awards IP funding

State Department, as part of US efforts to

combat transnational crime and promote the protection of intellectual property (IP) rights worldwide, has approved 11 projects totaling \$3.9-million in FY09 anti-crime funds.

Announced Sept.9, the funding will allow US law enforcement agencies and diplomatic missions to collaborate in IP protection training and technical assistance programs for foreign law enforcement partners in Pacific Rim, Latin America, Eastern Europe and Sub-Saharan Africa nations.

State's Bureau of International Narcotics and Law Enforcement Affairs and Bureau of Economic, Energy and Business Affairs selected the 11 projects after considering input from industry, other federal agencies, US overseas missions, and Congress.

The projects are:

—Assn. of Southeast Asian Nations (ASEAN): A series of regional training seminars for ASEAN prosecutors and judges [\$251,600];

—Indonesia Senior Advisors: A program for two senior US advisors to provide training and assistance to Indonesian Police and the Indonesian Directorate General for IPR in combating copyright piracy [\$640,000];

—Asian IP Enforcement Network: The third in a series of regional conferences designed to improve real-time law enforcement cross-border cooperation in the Pacific Rim [\$150,000];

—Eastern Europe IP Law Enforcement Coordinator: Extension of the Department of Justice (DOJ) regional coordinator based in Sofia, Bulgaria to continue ongoing work to improve IP enforcement coordination across the region [\$590,000];

—Mexico: IP criminal enforcement training for Mexican prosecutors, judges, and customs officers, with a particular focus on Internet piracy [\$657,000];

—Russian Federation: Customs and border enforcement training for officials in the Russian Far East [\$80,060];

—South Asia Regional: A training workshop in New Delhi that will bring together IP enforcement officials from India, Pakistan, Sri Lanka, Nepal, Maldives, Bangladesh, Bhutan and the People's Republic of China to share best practices and strengthen regional enforcement [\$250,000];

—Sub-Saharan Africa Regional: IP regional workshops for law enforcement officials in West Africa (including Nigeria) and nations belonging to the East African Community (EAC) and Southern Africa Customs Union (SACU) with particular emphasis on fighting the spread of counterfeit pharmaceuticals, including HIV-AIDS drugs [\$972,000];

—Tri-Border of South America: Training for law enforcement in Argentina, Brazil, Paraguay, Chile and Peru focused on regional approaches to confronting IP piracy in the Tri-Border region [\$160,856];

—Ukraine: Training and technical assistance to Ukrainian IP enforcement officers to enable real-time identification of counterfeits in the field [\$50,000];

—Vietnam: IP enforcement training for Vietnamese Market Watch and Economic Police officers [\$98,756].

FCC TAC seeks members

The Federal Communications Commission (FCC) is seeking additional nominations for members to serve on its Technological Advisory Council (TAC).

FCC had initially sought nominations for the TAC in April, but concurrent with creation of the council, it was charged by Congress to develop a plan that seeks to ensure that the nation's citizens have access to broadband capability. To support this and other related efforts, FCC now seeks additional nominations for TAC to ensure that its membership serves the needs of the Commission best. Nominations for TAC will be accepted through Sept.30.

Applications by individuals for TAC membership, or nominating another person, must include: name & title of applicant or nominee and a description of the interest they will represent; the applicant's or nominee's mailing address, e-mail address and phone number; reasons why the applicant or nominee should be appointed to TAC; and the basis for determining peer recognition as a technical expert.

For more information, contact Walter Johnston at (202) 418-0807. Nominations and applications, which should include 'TAC

nomination' in the subject line, can be sent to him at Walter.Johnston@fcc.gov

Details of TAC are at:

<http://hraunfoss.fcc.gov/edocs_public/attachmatch/D A-09-796A1.doc>

NSB issues energy report

A report by the National Science Board, *Building a Sustainable Energy Future: US Actions for an Effective Energy Economy Transformation*, was issued last month and offers a useful collection of insights about the topic gleaned during three public roundtables in Washington DC, Golden, Colo., and Berkeley, Calif.

The NSB study was started in October 2007 and led by a 9-member Task Force on Sustainable Energy and three ex officio members. Task Force co-chairs were Dan Arvizu (National Renewable Energy Lab) and John Strauss (Texas Tech University).

Key findings in the 70-page report are that the US government should lead a coordinated effort to substantially increase and leverage federal and private sector investment in sustainable energy r&d, and must establish policies that create market conditions favorable for development and widespread deployment of sustainable energy sources and technologies, educate and train a workforce to energy challenges, and advocate energy efficiency and energy conservation measures in the marketplace and by private citizens.

The report [NSB-09-55], which offers six main findings, six recommendations, and six items of guidance, is available at:

<www.nsf.gov/nsb/publications/2009/nsb0955_se_future.pdf>

ARS research goes to pot!

Agricultural Research Service (ARS) chemist Walter Schmidt in the agency's Environmental Management and Byproduct Utilization Laboratory in Beltsville, Md., has been developing practical uses for discarded chicken feathers and may have found a more valuable future for this often unwanted

byproduct of poultry processing.

It's estimated that about four billion pounds of chicken feathers are left over each year after processing in the US.

Schmidt, working with the Horticultural Research Institute (HRI) in Washington DC and HRI research associate Masud Huda have formulated planting pots made with chicken feathers that degrade over various periods of time, ranging from one to five years.

While the pots look and feel like any other plastic planters to be found at a local nursery, they are made to disintegrate naturally, without harm to the environment, and are manufactured without any petroleum components.

Schmidt and a former ARS research associate, Justin Barone, in 2002 found that feather-derived plastic could be molded just like any other plastic and has properties very similar to polyethylene and polypropylene.

This makes the feather-derived plastic a unique material for packaging or any other application where high strength and biodegradability are sought. The process of making composites and films from feather keratin was patented by ARS in 2006.

Schmidt and Huda are now working to develop fully biodegradable flowerpots. Several commercial pot makers are involved in this phase of the research to determine optimum production-scale molding specifications for the containers.

The 'green' horticultural end products will not only help solve environmental problems by creating biodegradable plastics, said Schmidt, but will also provide a cost-effective commercial use for chicken feathers.

DHS HQ groundbreaking

A groundbreaking ceremony was held Sept. 9 by Homeland Security Secretary Janet Napolitano and General Services Administration (GSA) acting administrator Paul Prouty for consolidation of a new Department of Homeland Security (DHS) headquarters at the St. Elizabeths Campus in Southeast Washington DC.

Partly funded by the American Recovery and Reinvestment Act (ARRA), the project is the largest in the Washington metro area since building of the Pentagon and will help revitalize and spur development in the Anacostia area.

"Construction of our new headquarters at St. Elizabeths using [ARRA] funding will help consolidate more than 35 offices in the Washington area," Secretary Napolitano said.

Consolidating these offices by moving to a new headquarters is likely to save taxpayers \$163-million over the next 30 years.

"Development of the new DHS campus has been an enormous undertaking and a collaborative effort involving many officials, groups, and individuals," said Prouty.

"GSA's work will preserve the key historic features of this National Historic Landmark and provide an energy efficient campus for DHS."

GSA awarded a \$435-million contract to Clark Design Build LLC last month to design the site's first phase, a new, energy-efficient 1.18- million-square-foot Coast Guard headquarters facility. It will incorporate state-of-the-art energy efficiency technologies, including green roofs, landscaped courtyards to capture and reuse surface water runoff, and innovative heating, ventilation and air-conditioning systems.

Occupancy of the new Coast Guard headquarters is expected to begin in 2013.

ARS chemist stuck on glue

An Agricultural Research Service (ARS) chemist at the agency's Plant Polymer Research Unit in Peoria, Ill. has found a new, potential value-added, use for corn germ meal left after the oil has been extracted. Leftovers are typically fed to poultry and livestock.

However, ARS scientist Milagros Hojilla-Evangelista has found that corn germ can be used as a protein extender for plywood glues, opening the door to a new market for the agricultural byproduct.

Glue extenders cut the amount of main

binder, or resin, used in such glues and enhance their adhesive action.

Industrial-grade wheat flour is the conventional extender for most plywood glues, according to Hojilla-Evangelista, who hopes to expand the list of agricultural extenders in case glue makers need a comparable alternative due to a spike in wheat-flour prices or a reduction in supply.

Hojilla-Evangelista, drawing on earlier work with soy-flour-based glues, has devised a corn-germ formulation for use in sprayline coating, a procedure that applies a liquid adhesive to wood surfaces using overhead nozzles. In tests, she applied the corn-germ-based glue to one side of 12-inch by 12-inch southern pine veneers, then hot-pressed them following industry-standard conditions to produce three-ply panels. Her analysis of the material found the bonding strength of the corn-germ-based glue to be similar to that of the wheat-flour-based formula. Its viscosity and mixing properties also compared well.

The focus of her current work is increasing the corn germ used in the glue to try to reduce the amount of resin needed, which could potentially cut manufacturing costs.

ARS is the main intramural scientific research agency of USDA.

ED proposes priorities

The Department of Education's (ED) assistant secretary for post-secondary education plans one absolute priority for each of these four special focus competitions - European Union-US Atlantis Program; Program for North American Mobility in Higher Education Program; US-Brazil Higher Education Consortia Program; and US-Russia Program: Improving Research and Educational Activities in Higher Education - conducted by the Fund for the Improvement of Postsecondary Education (FIPSE).

The priorities may be used by the ED assistant secretary for competitions in FY10 and in later years to focus federal financial assistance on an identified need in the area of post-secondary education. ED intends these

absolute priorities to improve post-secondary education opportunities by supporting the formation of international educational consortia and encouraging cooperation in the coordination of curricula, the exchange of students, and the opening of educational opportunities between the US and countries involved in these programs.

The purpose of FIPSE is to support reforms, innovations, and significant improvements of post-secondary education that respond to problems of national significance and serve as national models. Currently, these special projects include four international consortia programs, each of which are co-funded by ED through FIPSE and its respective international government partners, and support multi-lateral, multi-institutional collaboration. In each program, ED works solely with an agency from the other nation or group to administer the program and select grantees.

—Proposed Absolute Priority 1: EU-US Atlantis Program. Supports formation of educational consortia between the EU and US institutions. To meet this priority, the applicant must propose a project that encourages cooperation in the coordination of curricula, the exchange of students, if pertinent to grant activities, and the opening of educational opportunities between the US and countries in the EU. To be eligible for an award under this priority, the applicant in the US must be a US institution and the applicant in the EU must be an EU institution. EU institutions participating in any consortium proposal under this priority may apply to the European Commission directorate-general for education and culture (DG EAC) for funding under a separate but parallel EU competition;

—Proposed Absolute Priority 2: Program for North American Mobility in Higher Education. Supports formation of educational consortia of US, Canadian, and Mexican institutions. To meet this priority, applicants must propose a project that supports cooperation in the coordination of curricula, the exchange of students, if pertinent to grant activities, and the opening of educational opportunities among the US, Canada, and Mexico. To be eligible for an award under this priority, the applicant in the US must be a US institution, the applicant in Mexico must be a

Mexican institution, and the applicant in Canada must be a Canadian institution. Canadian and Mexican institutions participating in any consortium proposal under this priority can apply to Human Resources and Social Development Canada (HRSDC) or the Mexican Secretariat for Public Education (SEP), respectively, for funding under separate but parallel Canadian and Mexican competitions;

—Proposed Absolute Priority 3: US-Brazil Higher Education Consortia Program. Supports formation of educational consortia of US and Brazilian institutions. To meet this priority, the applicant must propose a project that supports cooperation in the coordination of curricula; exchange of students, if relevant to grant activities, and the opening of educational opportunities between US and Brazil. To be eligible for an award, the applicant in the US must be a US institution and the applicant in Brazil must be a Brazilian institution. Brazilian institutions participating in any consortium proposal under this priority may apply to the Coordination of Improvement of Personnel of Superior Level (CAPES) of the Brazilian Ministry of Education for funding under a separate but parallel Brazilian competition.

—Proposed Absolute Priority 4: US-Russian Program: Improving Research and Educational Activities in Higher Education. This supports formation of educational consortia of US and Russian institutions to encourage mutual socio-cultural-linguistic cooperation, coordination of joint development of curricular, educational materials, and exchange of students. To be eligible for an award, the applicant in the US must be a US institution and the applicant in Russia must be a Russian institution. Russian institutions participating in any consortium proposal under this priority can apply to the Russian Ministry of Education and Science for funding under a separate but parallel Russian competition.

Comments on these proposed priorities are due by Oct.8 and can be e-mailed to comments@ed.gov. ‘Absolute Priorities for Special Focus International Competitions, FIPSE’ should be included in the subject line.

For more details, contact Sarah Beaton at (202) 502-7621; Sarah.Beaton@ed.gov

ARS, NOAA collaboration

Collaborative research led by Agricultural

Research Service (ARS) microbiologist Paul Zimba of the Catfish Genetics Research Unit in Stoneville, Miss. and National Oceanic and Atmospheric Administration (NOAA) chemist Peter Moeller, has found that a powerful fish-killing toxin may also kill cancers.

The toxin, *euglenophycin*, has a molecular structure similar to that of solenopsin, an alkaloid from fire ant venom known to inhibit tumor development.

Mysterious fish mortalities were reported by a North Carolina commercial aquaculture facility in its ponds in July and August 2002, when 21,000 striped bass died in July and August, resulting in losses of over \$100,000.

To learn why the fish had died, Zimba and Moeller collaborated with Michigan State Univ. biologist Richard Triemer. The scientists isolated and analyzed dissolved compounds, bacteria and algae from pond water samples, and in a 2004 paper they identified the culprits as *Euglena sanguinea* and *E. granulata*, two species of freshwater algae that had been thought to be benign.

It was the first report of freshwater algae causing fish kills, but it wasn't the last. Zimba and his research colleagues have confirmed 11 more occasions when euglenoid algae have been fatal in fish ponds. Losses from these events, which have affected striped bass, tilapia and channel catfish, are estimated to exceed \$1.1-million.

Working at NOAA's Center for Human Health Risk in Charleston, S.C., Moeller purified the active compounds and fully characterized the molecular structure of *euglenophycin*, the algal toxin responsible for the fish kills. The scientists now seek patent protection on the toxin and are further investigating its properties.

Although lab tests have confirmed that *euglenophycin* is deadly to fish, and catfish exposed to the purified form of the toxin have died within four hours of exposure, a potential use of the toxin is in treating cancer patients. Even low concentrations of *euglenophycin* have led to a significant

decrease in cancer cell growth in lab tests, and can kill cancer cells.

Planned future tests will seek to verify whether the toxin can slow or prevent tumor formation. Positive results would indicate that this problematic alga could have beneficial medical uses.

Bloom, Gallagher tapped

(from front page)

“A strong manufacturing sector is a cornerstone of American competitiveness and a critical part of President Obama’s economic strategy,” Bloom said. “As we meet the challenges of globalization and technological change, it’s vital to have a concerted effort across the administration to support an innovative, vibrant manufacturing sector.”

Prior to joining Treasury in February 2009, Bloom was a special assistant to the president of the United Steelworkers Union, where he coordinated the union’s relationships with investors in the public and private sectors. Earlier, Bloom was a founding partner of Keilin & Bloom, an investment banking company. Previously, he was a vice president at Lazard Freres & Co., where he specialized in analyzing, structuring and raising financing for union-led employee-ownership transactions. Bloom, a graduate of Wesleyan Univ., has an MBA from Harvard.

The president’s decision to name Gallagher to lead NIST was welcomed.

“Patrick is an accomplished scientist whose leadership is exactly what NIST needs to advance the critical infratechnologies - measurement science, standards and technologies - that turbocharge America’s pace of innovation and have the potential to revitalize manufacturing competitiveness,” Council on Competitiveness president Deborah Wince-Smith told *FTW*.

“NIST is central to efforts to enhance US competitiveness through s&t,” said American

Assn. for the Advancement of Science (AAAS) Science & Policy Programs director Albert Teich. “Congress and the Obama administration have recognized NIST’s importance by highlighting it in the America COMPETES Act and by giving it a substantial budget increase. It’s more important than ever, therefore, that NIST have strong and effective leadership.”

A former top s&t official noted that the decision to appoint a career scientist to head NIST was a return to how NIST directors were chosen back before the Reagan administration.

Currently NIST deputy director, Gallagher joined the agency in 1993 as an instrument scientist at the NIST Center for Neutron Research (NCNR). He became NCNR director in 2004, where he served until assuming his current duties in September 2008. Gallagher was a NIST agency representative (1999-2001) at the National Science and Technology Council (NSTC) and remains active in US policy for scientific user facilities. He has chaired interagency working groups on neutron and light source facilities under the White House Office of S&T Policy (OSTP). Gallagher, who was awarded a gold medal by Commerce in 2006 for his leadership in interagency coordination of policy for scientific user facilities in the US, has served as a member of numerous advisory, study and review committees with other federal agencies including NSF, DOE and the National Research Council. He has a bachelor’s from Benedictine College and PhD from Univ. of Pittsburgh.

Technology licenses

NASA’s Langley Research Center in Hampton, Va. intends to grant a partially exclusive, worldwide license to **Kelvin International Corp.** (Newport News, Va.) for

the following inventions: magnetic field response sensor for conductive media (US pat. appls. 11/421,886 & 12/533,520); flexible framework for capacitive sensing (US patent 7,047,807 B2); system & method for wirelessly determining fluid volume (US patent 7,506,541 B2); wireless fluid level measuring system (US patent 7,255,004 B2); wireless sensing system using open-circuit, electrically-conductive spiral-trace sensor (US pat. appl. 11/671,089); method of calibrating a fluid-level measurement system (US pat. appl. 11/930,222 & PCT pat. appl. PCT/US08/58332); wireless sensing system for non-invasive monitoring of attributes of contents in a container (US pat. appl. 12/015,626 & PCT pat. appl. PCT/US08/51258). The field-of-use may be limited to cryogenic liquid product applications including flow, level, and fluid measurement applications.

Upcoming events

An opportunity to learn about the latest developments in bio-imaging from the National Institutes of Health (NIH) and the National Institute of Standards and Technology (NIST) will be held Oct.6 at a **TEDCO Technology Transfer and Commercialization Showcase** at NIST's Gaithersburg campus in Maryland.

Sponsored by the Maryland Technology Development Corporation (TEDCO), the event will include brief presentations on over 50 government-developed bio-imaging technologies available for licensing, poster sessions, and an opportunity to tour NIST facilities. In addition to the technologies, there will be information on lab facilities at NIH and NIST available for public use, and a tour of NIST facilities.

NIST researchers will demonstrate a passive terahertz heterodyne imager for biomedical applications and quantitative molecular sensors and imaging techniques for diagnostic detection of infectious diseases.

Discover and Commercialize Cutting Edge Bio-Imaging Technologies is one of over 30 tech-transfer and commercialization showcases hosted by TEDCO, a Maryland state agency created in 1998 to fund and foster entrepreneurship and small businesses and facilitate the transfer of

knowledge and technology.

The Oct.6 e is open to the public, but attendees must register. Admission is \$80 per person. More details, including registration and agenda, are at: <www.marylandtedco.org/calendarofevents/detail.cfm?eventid=271>

People in the news

Senate Confirmations:

Sept.10

—**Cass Sunstein** as administrator of the Office of Information and Regulatory Affairs (OIRA) in the Office of Management & Budget, Executive Office of the President (EOP).

—**John Fernandez** as assistant secretary for economic development at Commerce Dept.

—**Gary Guzy** as deputy director of the Office of Environmental Quality, EOP.

Nominations Sent to the Senate:

Sept.10

—**Harris Sherman** to be under secretary for Natural Resources & Environment at USDA.

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President Obama announced (Sept.11) his intent to nominate:

—**Eric Hirschhorn** to be under secretary for industry & security at Commerce Dept.

Hirschhorn is a partner in Winston & Strawn LLP's Washington DC and was deputy assistant secretary for export administration at Commerce (1980-81) and oversaw US export controls for items having commercial and military applications, anti-boycott compliance, restraints on imports for national security reasons, as well as Commerce's participation in the Committee on Foreign Investment in the United States (CFIUS). Earlier, while a member of President Jimmy Carter's reorganization project staff (1977-80), Hirschhorn worked on reorganizing the federal government's international trade, public diplomacy, and foreign assistance mechanisms. Earlier, Hirschhorn held several congressional

staff positions, was in private law practice in New York City, and was a legal services lawyer. Since returning in 1981 to private law practice, he has represented foreign and domestic clients on a wide range of matters. Hirschhorn is executive secretary of the Industry Coalition on Technology Transfer (ICOTT) and the author of *The Export Control and Embargo Handbook*. He has a bachelor's from Univ. of Chicago and JD from Columbia Univ. If confirmed by the Senate, Hirschhorn will oversee the Bureau of Industry and Security (BIS). Hirschhorn's selection was praised by Commerce Secretary Gary Locke. "BIS has a unique mission at the intersection of international trade and national security," he said. "[He] has a wealth of experience working with export controls, and I look forward to having him onboard as we implement President Obama's vision to reform the export control system and increase competitiveness of US companies by facilitating the sale of our goods while protecting national security."

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 President Obama announced (Sept.10) his intent to nominate the following:

—**Erroll Southers** to be assistant secretary (Transportation Security Administration) at the Department of Homeland Security. Southers is currently the assistant chief for the Los Angeles World Airports Police Dept.'s office of homeland security & intelligence, and also serves as associate director at the Center for Risk and Economic Analysis of Terrorism Events at Univ. of Southern California, where he was an adjunct professor of terrorism, homeland security & public policy. Prior to this, he was deputy director of homeland security in the office of California Governor Arnold Schwarzenegger. Southers has also served as a special agent with the Federal Bureau of Investigation, and held positions with the Rio Hondo Policy Academy and Santa Monica Police Dept. A senior fellow with UCLA's school of public affairs, he has an MBA from Univ. of Southern California where he's pursuing a PhD;

—**Barbara Haskew** to be a member of the board of directors of the Tennessee Valley Authority (TVA). Haskew is distinguished professor of economics at Middle Tennessee State Univ., where she has served in leadership positions for over 20 years including dean of the college of business and vice president and provost. Her interest in and research on utility and energy

issues was reinforced by her eight years as manager of the rate staff for TVA. In this post, she led development of wholesale and retail rates designed to meet the agency's goals. Haskew has a PhD from Univ. of Tennessee, Knoxville.

—**Neil McBride** to be a member of the board of directors of TVA. He's general counsel with the Legal Aid Society of Middle Tennessee and the Cumberlands, a non-profit law firm that gives free legal help in civil cases. After starting his legal career as a public interest advocate in Washington DC, McBride moved to the Appalachian coalfields of East Tennessee in 1973 and was one of the region's earliest advocates for more transparency in TVA decision-making, and for TVA to provide more effective energy efficiency programs and for environmental policies for the long-term interest of the Tennessee Valley. McBride is an adjunct professor at Univ. of Tennessee College of Law, where he teaches a course on non-profit corporations. He is a graduate of Hamilton College and Univ. of Virginia School of Law.

—**Patrick Gallagher** to director of the National Institute of Standards and Technology (NIST) at Commerce Dept.

—**Harris Sherman** to be under secretary for natural resources & environment at the Department of Agriculture (USDA). Harris Sherman, Nominee for Under Secretary for Natural Resources and Environment, Department of Agriculture (USDA). Sherman is executive director of Colorado's Department of Natural Resources (DNR) and a member of Governor Ritter's cabinet. He is also co-chair of the Governor's Forest Health Advisory Council and a member of the Colorado Wildlife Commission, Colorado Water Conservation Board, and Great Outdoors Colorado. Between his two terms as DNR director, Sherman practiced law with Arnold & Porter LLP, where he was managing and senior partner of the firm's Denver office. His practice focused on natural resources, environmental, water, public land, real estate, and Indian law. Sherman has a bachelor's from Colorado College and his law degree from Columbia Univ. Law School.

President Obama also announced that **Sean Stackley**, assistant secretary of the Navy for research, development & acquisition, will continue in his current posts at the Department of Defense. He has served since July 2008 as Navy assistant secretary for research, development &

acquisition. As Navy's acquisition executive, Stackley is responsible for development and procurement of Navy and Marine Corps platforms and warfare systems. Prior to this appointment, he was a professional staff member of the Senate Armed Services Committee's Seapower Subcommittee. He began his career as a surface warfare officer and has served in a range of industrial, fleet, program office, and headquarters assignments in ship design and construction, maintenance, logistics, and acquisition policy. Stackley has a bachelor's from US Naval Academy and master's from MIT.

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 Defense Secretary Robert Gates announced (Sept.8) the following Department of Defense Senior Executive Service (SES) appointments:

Appointments

—**David Honey** appointed to SES and assigned as director for research, office of under secretary (acquisition, technology & logistics). He was with Information Systems Laboratories.

—**Brett Lambert** appointed to SES and assigned as director, industrial policy, office of under secretary (acquisition, technology & logistics). He was with Civitas Group LLC.

—**William McCarthy** appointed to SES and assigned as deputy director, net-centric & space systems, office of the director, Operational Test & Evaluation. He was at New Mexico Institute of Mining and Technology.

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 Battelle named **John McArdle** as manager of business development, water technology. In this newly-created post, McArdle will coordinate its research and commercial activities in water and wastewater treatment technologies. He will focus initially on development of Battelle's worldwide strategy in collaboration with the national laboratories that managed and co-managed by Battelle for the Department of Energy (DOE). "We're pleased that John has joined our team," industrial & international markets vice president Spencer Pugh said Sept.9. "Battelle and the national labs that it manages have an extensive but widely dispersed portfolio of water and wastewater technologies and world-class engineering and environmental service capabilities. John's role is to work closely with these organizations to implement strategies that will rapidly deploy these technologies and services into the water and wastewater treatment

market." McArdle is an expert in water and wastewater treatment technologies with an emphasis on membrane filtration. Prior to joining Battelle, he was business development director for Koch Membranes Systems Inc. and was involved with the introduction of membrane filtration technology into the rapidly growing water and wastewater treatment markets of China and India. Earlier, McArdle worked for Allied Signal Inc, Aquatech Systems and UOP. He has a bachelor's from Manhattan College, master's from Northeastern Univ., and MBA from Univ. of Chicago Booth School of Business.

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