

2011 - 2012
fiscal years in review

Division of Science and Research

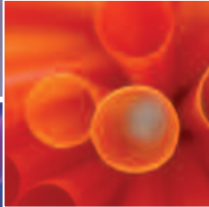
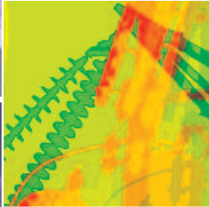
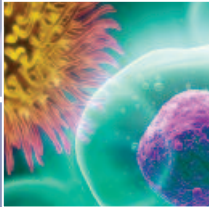


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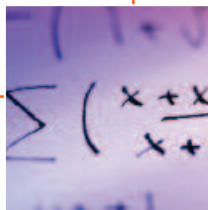
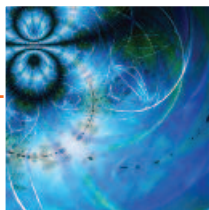
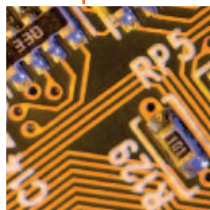
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About the Division of Science and Research

The Division of Science and Research of the West Virginia Higher Education Policy Commission provides strategic leadership for infrastructure advancement and development of competitive research opportunities in science, technology, engineering and mathematics disciplines. The Division is guided by a 14-member Science and Research Council.

The office directs the National Science Foundation's Experimental Program to Stimulate Competitive Research (EPSCoR) in West Virginia, coordinates scientific research grants to academic institutions from federal and state agencies, and conducts outreach activities to broaden the public's understanding of science and technology.



Letter from the Director and Chancellor



Investing in research improves education, creates jobs and steers youth toward careers in Science, Technology, Engineering and Mathematics (STEM) disciplines, all while increasing our society's knowledge. This statement has proven to be the case in West Virginia, where federal and state investment in academic research has tripled since the year 2000.

And it is showing results for the Mountain State.

West Virginia is now 18th in the nation in state-sponsored research and development expenditures, up from 37th in 2006.

The Research Challenge Fund, established in 2002, provides a baseline foundation of state funds to support science and technology research and education.

The Research Trust Fund, commonly referred to as Buck for Brains, has been highly successful. Established by the West Virginia Legislature in 2008 with \$50 million in surplus revenue, the fund is matched by private contributions. The \$50 million principal and \$50 million private match stay in the trust, while the interest is used to fund endowed chairs and professorships, student scholarships, scholarly library additions and research. Both WVU and Marshall have successfully raised the \$35 million and \$15 million, respectively, allocated to them for the state match.

With these smart investments by the state, plus major grants from the National Science Foundation, NIH and others, West Virginia is attracting world-class scientific researchers. Their contributions are making a difference.

The number of research centers at Marshall University, West Virginia State University, West Virginia University and other institutions of higher education has grown tremendously in the past decade.

The number of students majoring in science, technology, engineering and mathematics – our crucial STEM fields – has steadily increased since 2004. A growing STEM-educated workforce is critical for our state's future job growth.

We pursue academic research because it is an investment. Every dollar invested in academic research brings more dollars back to West Virginia, as well as providing better educational and economic opportunities for our state and its residents.

In West Virginia, the Science and Research Council, which guides the Higher Education Policy Commission's Division of Science and Research, has a Vision: By 2015, research and innovation will be the number one driver of West Virginia's new, diverse and prosperous economy.

West Virginia embraces Vision 2015 as the state continues to diversify and transform its traditional extractive industrial base to a more high-tech, knowledge-based economy. The Carnevale report from the Georgetown University Center on Education and the Workforce indicates that nearly 50 percent of all jobs in West Virginia will require a degree beyond high school by 2018. Each year thereafter, that figure increases by a point.

We have made great progress, but there is still so much to do. The Governor, the Legislature and West Virginians across the state continue to support university research. Supporting an innovative climate at our institutions improves education and creates new opportunities for our state.

Jan Taylor, Ph.D., Director of Research Programs, State EPSCoR Director

Paul L. Hill, Ph.D., Chancellor, West Virginia Higher Education Policy Commission

highlights

August 2010

West Virginia receives \$1 million National Science Foundation (NSF) grant for high-tech infrastructure.

September 2010

With a theme of Sustainability, the 3rd biennial Science, Technology and Research (STaR) Symposium is held at Marshall University. *Denialism* author Michael Specter is keynote speaker. An audience of 135 faculty, students, staff and stakeholders attend.

The state receives its third National Science Foundation Research Infrastructure Improvement Award – this one for \$20 million over five years, the largest single NSF grant in West Virginia history. Partnering West Virginia University, Marshall University, and West Virginia State University, the *Bionanotechnology for Enhanced Public Security and Environmental Safety* study has the potential to create new technologies that significantly impact security, the environment, and medicine, as well as the jobs to manufacture those new innovations.

December 2010

With a generous donation from Union Carbide Corporation, a subsidiary of The Dow Chemical Company, the state receives 258 acres of land and facilities that become the West Virginia Regional Technology Park. The Division of Science and Research begins the process of converting the donation into a diversified, multi-tenant research, development, education and commercialization park focused on energy, chemicals and materials, and biotechnology.

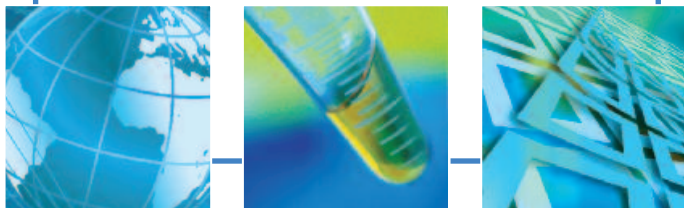
January 2011

Mountain State Science segments debut on West Virginia Public Television. The segments run during WVPB's *This Week in West Virginia* program. Six in-depth stories about research in West Virginia are broadcast. Those segments can be viewed on www.wvresearch.org.

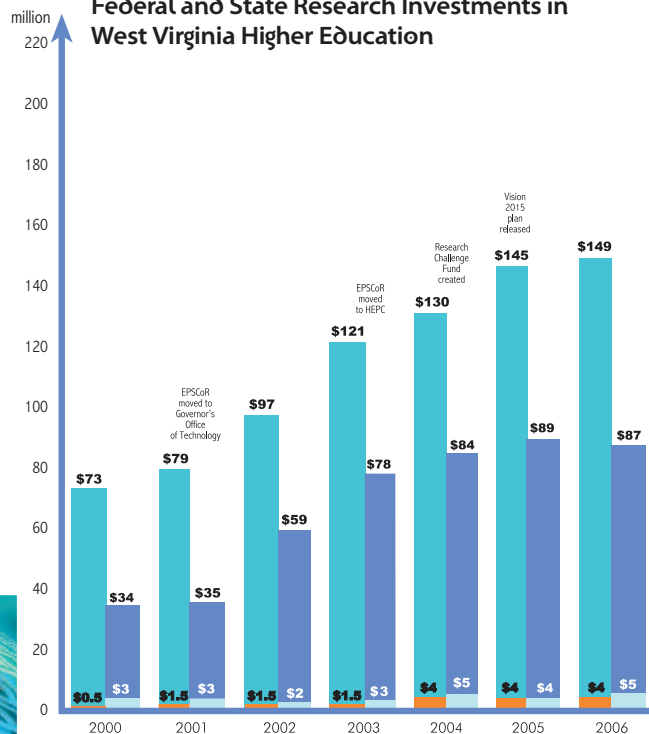
The Division announces nearly \$600,000 in scientific research and STEM education grants to 12 colleges and universities in West Virginia, including Research Trust Fund, Instrumentation, Innovation, SURE and Mini-Grant program awards. The announcement is made as scores of undergraduate students present their research at the State Capitol during Undergraduate Research Day.

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FY 2011 highlights



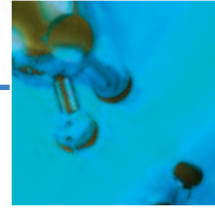
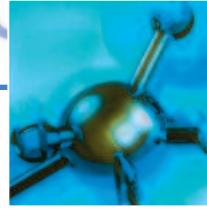
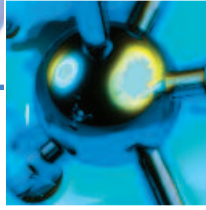
Federal and State Research Investments in West Virginia Higher Education



Expenditures by West Virginia Academic Institutions and State Investments in Academic R & D

■ Federal Academic Expenditures
 ■ State Academic R & D Investments
■ State and Local Government Academic R & D Expenditures
■ Total R & D Expenditures (includes federal, state and local government, industry, institution funds and other sources)

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FY 2012 highlights

August 2011

The Division of Science and Research begins a comprehensive review of Vision 2015, the West Virginia Science and Technology Strategic Plan, involving faculty and researchers as well as science and technology industry representatives from across the state.

The West Virginia Regional Technology Park board of directors holds its first meeting to begin operations of the WVRTP, on behalf of the Higher Education Policy Commission.

U.S. Economic Development Authority grants \$5.25 million for laboratory building renovations to the West Virginia Regional Technology Park.

September 2011

Dr. Phillip J. Halstead begins as the first president and executive director of the West Virginia Regional Technology Park.

October 2011

The Division of Science and Research hosts National Science Foundation Communicating Science seminar to help about 100 researchers and academic scientists better explain their work to the public.

January 2012

More than 100 undergraduate students present their research findings at Undergraduate Research Day at the West Virginia Legislature while the Division of Science and Research awards \$300,000 to researchers at state higher education institutions.

A public awareness information campaign about the value of research to the state debuts on West Virginia Metronews network and its website, www.wvmetronews.com. The campaign features WVU researcher Letha Sooter and Marshall's Tina Cartwright.

West Virginia University announces that donors have invested the full \$35 million to fulfill its portion of the Research Trust Fund, matching the \$35 million the state of West Virginia allocated in 2008. WVU calls for the West Virginia Legislature to renew the program with another large investment.

April 2012

Fourth biennial STaR Symposium held at West Virginia State University as a joint meeting with the West Virginia Academy of Science. The record 350 attendees hear keynote presentations by NASA scientist Gentry Lee, U.S. Senator Jay Rockefeller and NSF Director Subra Suresh.

May 2012

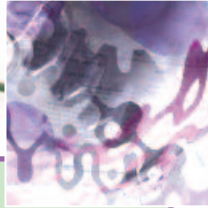
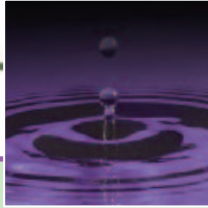
Dr. Paul Hill, long-time vice chancellor for Science and Research, is selected as Chancellor of the West Virginia Higher Education Policy Commission.

June 2012

More than 100 graduating high school seniors from 12 countries visit the West Virginia Regional Technology Park for Day 1 of their two month stay in West Virginia with National Youth Science Camp.



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3



From studies involving individual molecular signatures to gravitational waves of pulsars many galaxies away, West Virginia's leading scientists are working at the forefront of science and technology. Knowing that their work has the potential for better disease treatments, better energy efficiency, and a diversified West Virginia economy, these researchers are leveraging state and federal investments to make new discoveries and train tomorrow's high-tech workforce.

The following profiles highlight some of these researchers – faculty members from Concord University, Marshall University, Shepherd University, and West Virginia University, whose research has been funded through the National Science Foundation's West Virginia Experimental Program to Stimulate Competitive Research (WV EPSCoR), the West Virginia Research Challenge Fund, and the West Virginia Research Trust Fund.

selected researcher profiles



Dr. Brian Antonsen

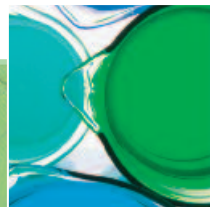
Marshall University

Dr. Brian L. Antonsen studies brains and behavior. He is particularly interested in discovering how social experiences cause long-lasting changes in the properties of circuits in the brain.

As assistant professor of biological sciences at Marshall University, Antonsen is co-director of the Brain Awareness Program and the annual Brain Expo—designed to spark children’s interest in science and raise awareness of science as a career option.

As leader of Marshall’s Emerging Areas Group for the state’s Research Infrastructure Award funded through the National Science Foundation, Antonsen is able to image biochemical properties of neurons in living tissue. “This technology opens up whole new lines of inquiry. Our research will benefit tremendously.”

“We wanted to give kids a different view of science and scientists than they see on most television.”





Dr. Jason Best is a professor of astronomy and astrophysics at Shepherd University and director of the Shepherd University Observatory.

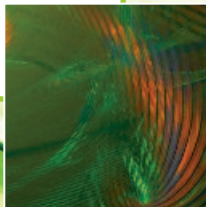
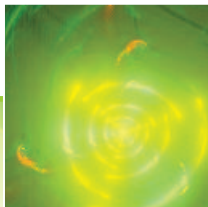
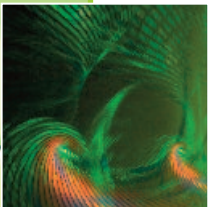
Supported with state funding from the West Virginia Higher Education Policy Commission's Innovation Grants Program, the observatory provides many far-reaching opportunities for students, with projects and demonstrations in astronomy, physics and physical science courses.

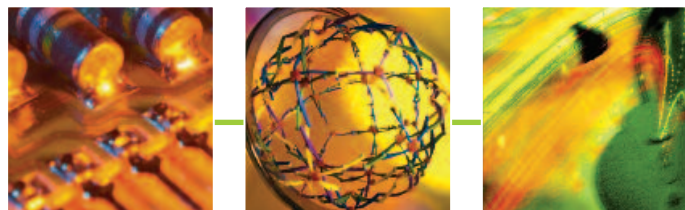
Dr. Best is known for his energetic style in the classroom. In addition to the undergraduate opportunities provided to students at Shepherd, Dr. Best also employs the observatory as an educational tool in the community for students in Kindergarten through grades 12.

"The observatory enhances classroom learning by providing field activities in a real-world scientific setting."

Dr. Jason Best

Shepherd University





Dr. Tina Cartwright is an assistant professor of education at Marshall University and former West Virginia State University Climatologist.

Her interest in science began with a 7th-grade project aimed at determining if cloud conditions can predict weather patterns. She visited the National Weather Service in Charleston. "I was simply enamored with the technology."

She earned master's and doctoral degrees in meteorology and worked at MIT's Lincoln Laboratory. But when she started teaching meteorology, she began to see that many students are underprepared for science, technology, engineering and math studies.

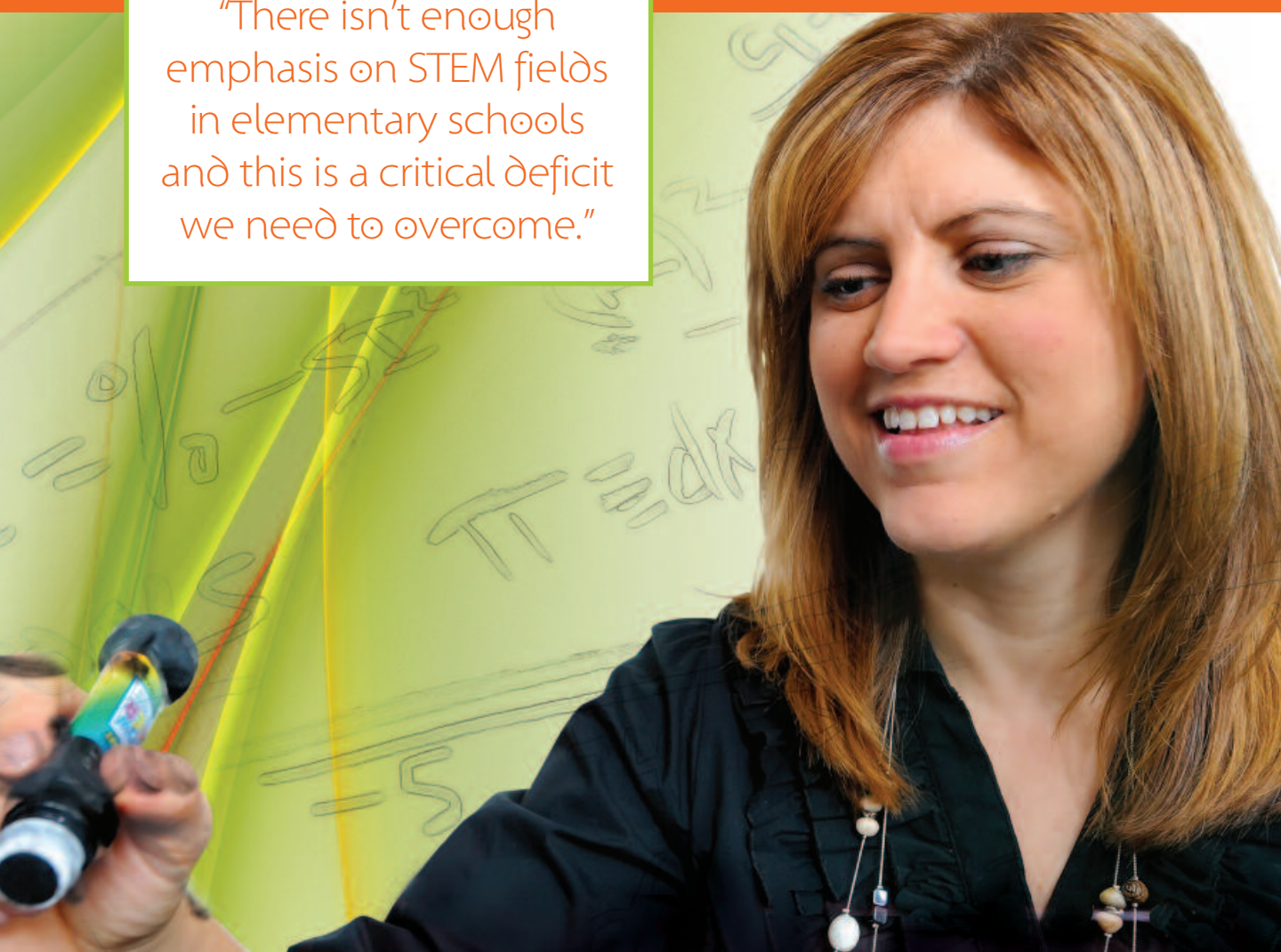
The goal to reverse that trend brought her to Marshall as program director for the MU-ADVANCE program, a National Science Foundation-funded initiative to advance women in academic science and engineering careers.

"There isn't enough emphasis on STEM fields in elementary schools and this is a critical deficit we need to overcome."



Dr. Tina Cartwright

Marshall University





Dr. Letha Sooter

West Virginia University

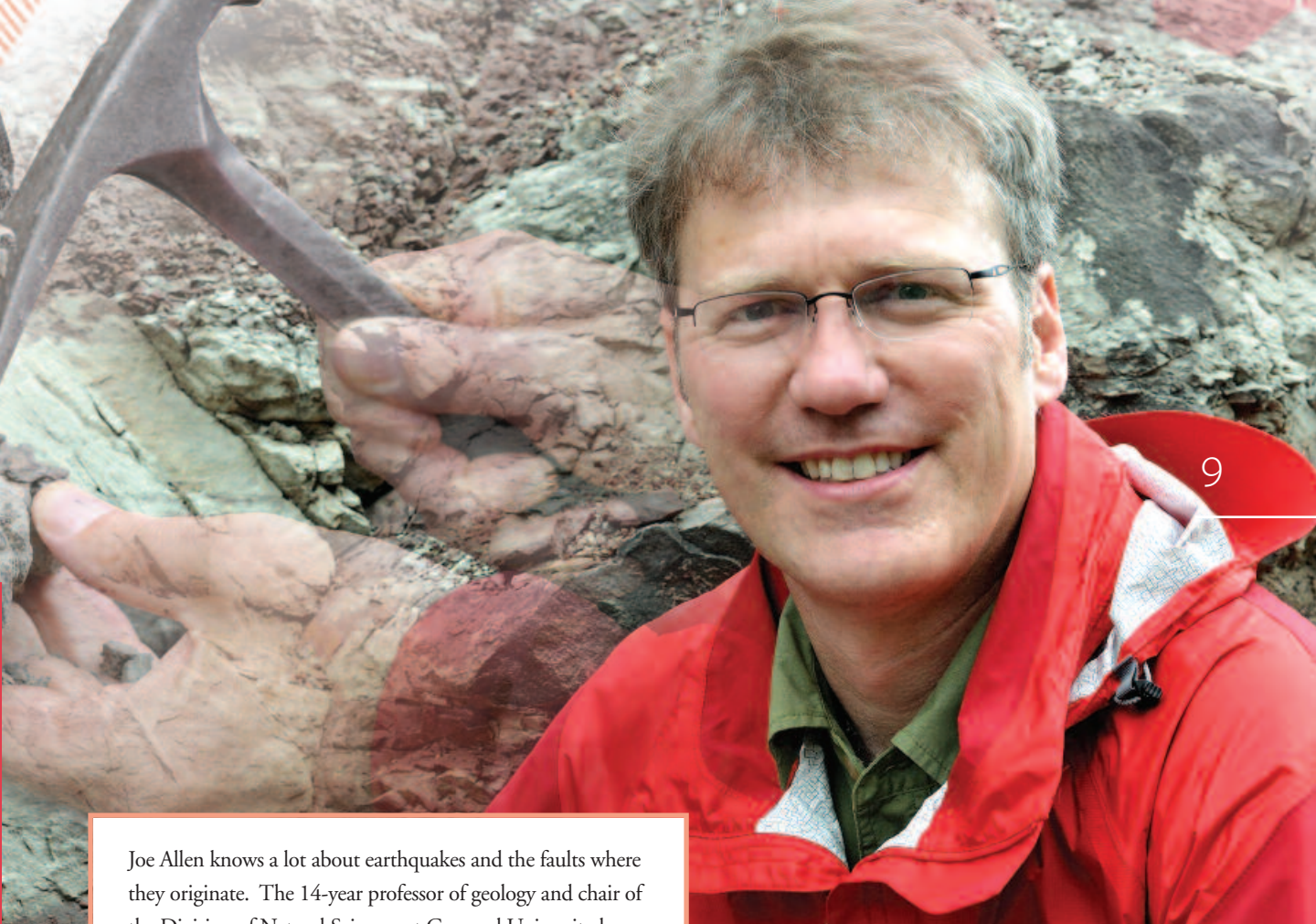
Dr. Letha Sooter is an assistant professor at West Virginia University and a participant in the University's NanoSAFE initiative.

She is researching biomolecules that recognize and bind with specific targets. The goal is to develop biological sensors for the U.S. Military to detect and identify potential threats to soldiers and civilians, whether those threats are explosive, chemical, or biological.

The same technology might ultimately be used to create common household products to prevent food poisoning.

"Molecular recognition elements are such a powerful tool. They're amazing little things. They do a wonderful job of being specific and having a high affinity for their target."



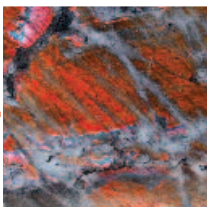


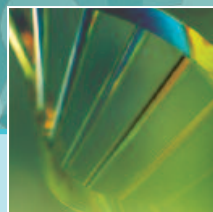
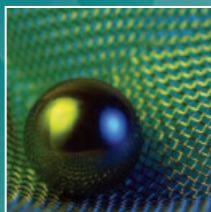
Joe Allen knows a lot about earthquakes and the faults where they originate. The 14-year professor of geology and chair of the Division of Natural Sciences at Concord University has led students and geologists on study trips to the Rocky Mountain region where two ancient earthquake faults are exposed, showing a rare visible record of temblors from 1.4 billion years ago.

Yet it's not what Dr. Allen knows that he believes is important to pass on to his students. It's what he and other geologists don't know that he wants his students to learn.

With help from the Research Trust Fund and outside grants, Dr. Allen has helped Concord's Natural Sciences Division assemble a respectable collection of analytical equipment for student research.

“Undergraduate research tends to open up students’ eyes a lot. They see the scientific process a lot more. That sense of discovery is with them.”





Dr. Jeremy Dawson is assistant research professor in the Department of Computer Science and Electrical Engineering at West Virginia University. He is among a team of researchers at CITeR, the Center for Identification Technology Research, probing deeply into the study of biometrics, the science of establishing human identity based on traits such as fingerprints, facial structure, iris and voice. Beyond these conventional biometrics, he and his team are beginning to investigate the emerging field of molecular biometrics.

He hopes his research will enable rapid analysis of DNA samples that may be smaller or of lower quality than current technology allows, while providing accurate results in the field within minutes instead of the hours or days needed to complete the analysis in a lab today. His research team also is investigating the possibility of using the human bacterial fingerprint as a means of identification.

“Rapid access to the whole human genome raises a bunch of societal questions. Yet, the benefits of developing biometrics based on molecular signatures are great.”

Dr. Jeremy Dawson

West Virginia University



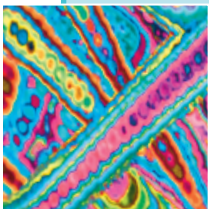
Dr. Cerasela Zoica Dinu is making a difference in education and research in West Virginia.

She is assistant professor of chemical engineering in the College of Engineering and Mineral Resources at West Virginia University.

As a teacher, Dr. Dinu was named Innovative Engineering Educator in 2011 by the National Academy of Engineering. As a researcher, she was honored by her college as Researcher of the Year.

Among her research topics, Dr. Dinu is leading a study to develop an environmentally friendly coating that could prevent the growth of germs on common surfaces like countertops and walls. If successful, such a coating imbedded in paint could ultimately prevent some infections, diseases and death and save society countless dollars on medical care.

"I find [the students] open. I find them actively engaged. They want to do research with me from their freshman year."



Experimental Program to Stimulate Competitive Research

West Virginia is one of 31 U.S. states and territories eligible to participate in the National Science Foundation's Experimental Program to Stimulate Competitive Research (EPSCoR) initiative. In West Virginia, EPSCoR is administered by the Higher Education Policy Commission's Division of Science and Research and overseen by the Science and Research Council.

The goals of West Virginia's EPSCoR program are to:

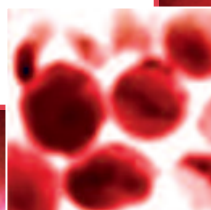
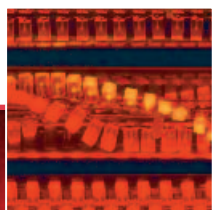
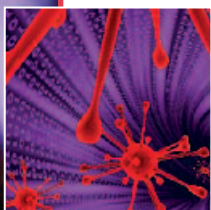
- Sponsor and maintain world-class research
- Develop academic resources, a skilled workforce and a competitive research infrastructure
- Encourage the transfer of technology to support economic growth, jobs and life enhancement
- Encourage participation of K-12, women, rural underserved and minorities in science, technology, engineering and mathematics
- Maintain a focus within state government to attain these goals statewide.

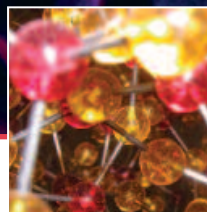
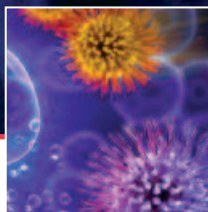
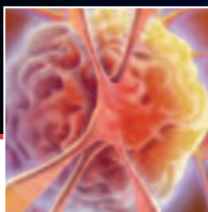
The National Science Foundation established EPSCoR in 1979 in response to congressional concerns about the geographic concentration of federal support for academic research. The program is intended to enhance the research capability of scientists in states that traditionally lack strong university-based research efforts and help them compete for a portion of the federal academic research and development budget.

The program helps eligible states improve their competitiveness largely through Research Infrastructure Improvement (RII) awards. These awards of up to \$4 million annually for five years support research infrastructure improvements in areas selected by the state as critical to its long-term economic development and science and technology competitiveness.



Federally
funded
programs





RII Track I

West Virginia has received three RII awards from NSF over the years, including a five-year, \$20 million award in September 2010 titled *Bionanotechnology for Public Security and Environmental Safety*.

That federal grant was matched with \$2 million in state funds and \$2 million from the participating institutions: Marshall University, West Virginia State University and West Virginia University.

Under the grant, researchers are working to bring together bionanotechnology and molecular sciences to create hand-held devices – essentially laboratories on a chip – that can remotely identify potential environmental threats, pollutants and even diseases.

This technology could have widespread and significant impact on security, environment and medicine. Innovations in these areas have the potential to create new marketable technologies and devices – and the jobs to manufacture them.

In addition, smaller institutions of higher education across West Virginia have the opportunity to collaborate with the three participating universities on this ground breaking research and position themselves for additional funding of their own.

Research Infrastructure Improvement Awards

RII Track II CI-TRAIN

In 2009, West Virginia's EPSCoR program received a National Science Foundation grant to build capacity and promote the use of advanced supercomputing at West Virginia's higher education institutions with the goal of enabling scientific discovery.

Through the joint award with the University of Arkansas system, West Virginia institutions received \$2.6 million over three years to upgrade networks and enhance immersive visualization capabilities for researchers at Marshall University, West Virginia University and West Virginia State University.

CI-TRAIN is creating a self-sustaining environment in which cyberinfrastructure is used to create and deploy:

- A multi-faceted workforce that is empowered to apply, sustain, and create cyber-based systems, tools, and services over the long term
- A nationally competitive computational and visualization environment shared across the partnership, featuring shared and new supercomputing clusters for computation, visualization support, and training
- Visualization display resources, including medium-scale stereo display devices not currently available and enhanced immersive visualization capabilities
- Software and new high-end data capture devices in support of the creation of new digital content
- Networking upgrades.

Federally funded programs cont.

RII Cyberinfrastructure 2

The RII C2 Award is from a \$1,176,470 National Science Foundation grant to enhance cyberinfrastructure across the state's higher education system. The award provides faster connections and increased connectivity at both Marshall and West Virginia universities, which will improve internet access to institutions throughout West Virginia.

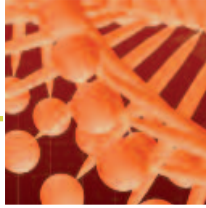
The grant enables inter-campus Internet2® access for the state's predominantly undergraduate institutions, community and technical colleges, and the K-12 community. Under the grant, Marshall University became a Sponsored Education Group Participant (SEGP), thus providing MU the ability to share with partners and collaborators its Internet2 global high-performance network.

Internet2 is an advanced networking consortium led by the research and education community.

The grant also helped to fund an upgrade of West Virginia University's core campus network from a speed of one gigabit per second to 10 gigabits per second. The enhanced robust, reliable and secure network infrastructure is "like going from a two-lane road to a 20-lane superhighway," according to a WVU researcher.

The grant was funded through the American Recovery and Reinvestment Act of 2009.





West Virginia Research Challenge Fund

The Research Challenge Fund provides the foundation for many of the competitive grant programs administered by the Division of Science and Research. The fund's establishment in 2004 by the West Virginia Legislature is evidence of West Virginia's ongoing commitment to supporting science and technology research and education.

The largest awards from the fund are Research Challenge Grants, which support the creation of research centers and foster economic and workforce advancement at the state's two research universities, Marshall and West Virginia.

Other programs supported by the fund are:

- Instrumentation Grants, which fund scientific equipment for advanced undergraduate laboratories
- Innovation Grants, which fund creative improvements in scientific equipment and facilities, curriculum, classroom instruction or delivery
- Mini-Grants, which provide summer stipends for faculty members to prepare research or research equipment proposals.

Since 2005, the Research Challenge Fund has awarded approximately \$28 million for research, supporting 19 institutions across West Virginia.

State Funded Programs

West Virginia Research Trust Fund

Also known as Bucks for Brains, the Research Trust Fund is an endowment that allows Marshall University and West Virginia University to double private gifts that support expansions to research faculty and infrastructure in key areas linked to economic development, health care and job growth.

Then-Governor Joe Manchin proposed the initiative in his 2008 State of the State Address, saying the investment is necessary for West Virginia to stimulate world-class research and development and to reap the related benefits of high-tech, high-wage industries.

The Research Trust Fund came to life with Senate Bill 287, passed by the West Virginia Legislature on March 8, 2008. The \$50 million for the fund came from surplus state revenue.

The goal of the trust fund, similar to successful programs in other states, is to strengthen the most promising research departments at Marshall University and West Virginia University – ultimately leading to business spinoffs, new patents and job creation. The state's four-year colleges and universities and the West Virginia School of Osteopathic Medicine also benefit from the program through grants for research supported by interest earned on the trust fund.

The trust fund supports research in energy and environmental sciences; nanotechnology and materials science; biological, biotechnical and biomedical sciences; biometrics, security, sensing and related information technologies; and gerontology.

The legislation gave Marshall and West Virginia University until 2015 to obtain private gifts to match their allocations. By January 2012, WVU had received total gifts to match all of its \$35 million allotment. Marshall received gifts totaling its \$15 million allotment by January 2013.

The Neuron

The Neuron, West Virginia's quarterly journal of science and research, is produced by the Division of Science and Research. It contains feature articles about West Virginia researchers and other news, and is mailed to about 2,000 subscribers. It is also available online at www.wvresearch.org.

Website

The Division's website, www.wvresearch.org, features the latest information for the state's research community, as well as serving as a repository of information for faculty, researchers and others on grant opportunities, discoveries, work of West Virginia researchers, outreach and education activities, and more.

Twitter & Facebook

The Division actively uses social media as part of its education outreach to get its message to a growing number of West Virginians engaged in online media. On Twitter, follow WV Science&Research. On Facebook, 'Like' WV Science & Research. Tweets from the Division's Twitter account also feed into the Division's website.

STaR Symposium

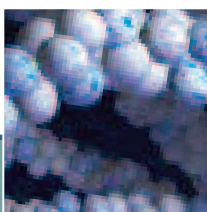
The biennial Science, Technology and Research (STaR) Symposium serves as a forum for the state's science and technology enterprise. Higher education faculty members, researchers, students, state policymakers and members of the business community gather at the event to share research developments, ideas and collaborations.

The April 2012 symposium at West Virginia State University drew a record 350 attendees. The next STaR Symposium is scheduled for October 21-22, 2013, at Waterfront Place hotel in Morgantown.

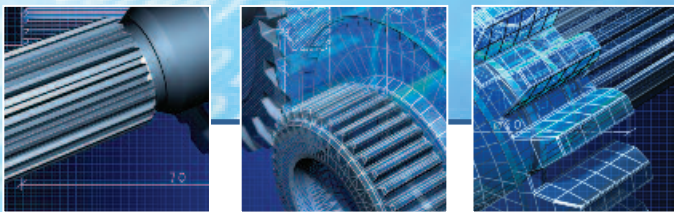
Read updates as they become available at www.wvresearch.org/star.



Outreach and



Education Initiatives



Radio and website outreach

As part of its education and outreach activities, the Division selectively sponsors 30-second spots on the West Virginia Metronews radio network and web-banner advertisements on www.wvmetronews.com. The radio spots and web banners provide informative highlights of research being conducted at the state's universities under the 5-year Research Infrastructure Improvement Award (see page 13).

Listen to the spots from the www.wvresearch.org website under the Education and Outreach tab.

Nanooze, the magazine and museum exhibits

In spring 2013, as well as 2014 and 2015, the Division of Science and Research will be publishing a West Virginia version of *Nanooze*, the magazine. The magazine is targeted to youth to interest them in science, technology, engineering and mathematics.

The Division is also working with museums in West Virginia to participate in NanoDays, a nationwide festival of educational programs about nanoscale science and engineering and its potential impact on the future. NanoDays is organized by the Nanoscale Informal Science Education Network.

Grants to Institutions for Research Infrastructure

West Virginia Research Trust Fund

This program allows the state's two research universities to double private gifts that support expansions to research faculty and infrastructure in key areas linked to economic development, health care and job growth. This Bucks for Brains fund supports research in energy, biotechnology, biomedical, identification technology, material science and engineering, environmental science and gerontology. Private gifts are matched dollar-for-dollar.

Eligibility: West Virginia University and Marshall University are eligible. The state's other public four-year institutions of higher education, as well as the West Virginia School of Osteopathic Medicine, are eligible to apply – by responding to specific requests for proposals – for matching grants supported by the interest earned on the trust fund.

See page 15 for more on the Research Trust Fund.

Federal Grant Matches

The Division of Science and Research provides state matching funds to research institutions for the National Science Foundation's Research Infrastructure Improvement program, the Department of Energy EPSCoR grants and shared facilities at West Virginia University.

Eligibility: Institutions must have received one of the awards listed above, to be eligible for cost-sharing funds from the state.

Grants to Institutions for Student Programs

STEM Fellows Program

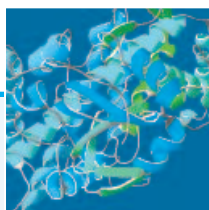
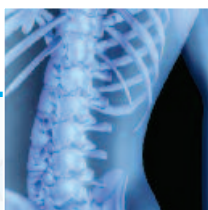
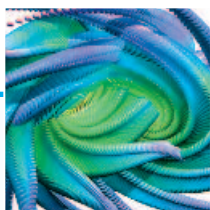
This grant program helps recruit and support outstanding graduate students in STEM (science, technology, engineering and mathematics) fields. Grants are awarded to institutions for the purpose of providing fellowships to graduate students.

Eligibility: Full-time faculty, deans and academic administrators at West Virginia University and Marshall University are eligible.

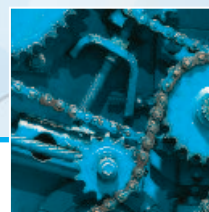
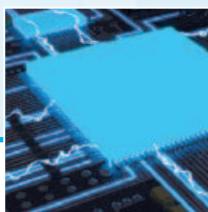
SURE Program

These grants help colleges and universities provide Summer/Semester Research Experiences to undergraduates in STEM fields. Grants are awarded for the purpose of providing small research stipends to undergraduate students.

Eligibility: Full-time faculty, deans and academic administrators at all four-year institutions of higher education in West Virginia are eligible.



State Grants Programs



Grants to Faculty Members

Innovation Grants

These grants fund improvements in scientific equipment, curriculum, minor renovations, classroom instruction, delivery and pedagogy. The program targets innovative, cohesive and/or comprehensive projects in laboratory/classroom settings that encourage undergraduate students to continue careers in science, mathematics and engineering.

Eligibility: Full-time faculty at the primarily undergraduate institutions in West Virginia may apply; West Virginia University and Marshall University faculty are not eligible.

Instrumentation Grants

This program purchases scientific equipment for advanced undergraduate laboratories to help encourage undergraduate students in West Virginia to continue careers in science, mathematics and engineering.

Eligibility: Full-time faculty at the primarily undergraduate institutions in West Virginia may apply; West Virginia University and Marshall University faculty are not eligible.

Mini-Grants for Proposal Preparation

These grants aid faculty members in the preparation of research or research equipment proposals for submission to external agencies or foundations. This program may support the applicant in collection of preliminary data, idea development or dedication of time to focus on a larger research program and proposal.

Eligibility: Tenure and tenure-track faculty at all four-year institutions of higher education in West Virginia are eligible.

Research Challenge Grants

This grant program supports large, focused STEM research projects that may lead to research centers and economic development. Projects should assist the institution in its ability to successfully compete for external funding on a national and international basis by providing incentives to significantly increase capacity.

Eligibility: Full-time faculty or research professors at all four-year institutions of higher education in West Virginia are eligible.



Grants Awarded by State Funds

Federal Grant Match

		\$
Richard Bajura	<i>West Virginia University</i>	200,000
John Maher	<i>Marshall University</i>	198,902
Curt Peterson	<i>West Virginia University</i>	207,338
Jose U. Toledo	<i>West Virginia State University</i>	15,498
Curt Peterson	<i>West Virginia University</i>	10,000

Innovation Grants

Joseph L. Allen	<i>Concord University</i>	40,000
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Instrumentation Grants

David N. Chambers	<i>Concord University</i>	14,861
Katharine B. Gregg	<i>West Virginia Wesleyan College</i>	10,312
Heather J. Kalb	<i>West Liberty State University</i>	19,058
Lisa M. Reilly	<i>Bethany College</i>	13,511
Mohamed M. Youssef	<i>West Liberty State University</i>	7,250
Adam Parks	<i>Shepherd University</i>	17,096

Opportunity Grants

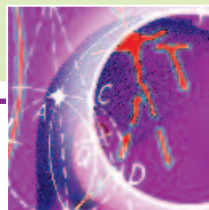
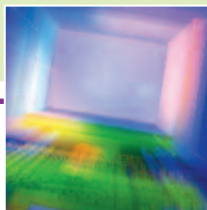
Majid Jaraiedi	<i>West Virginia University</i>	10,000
Michael Castellani	<i>Marshall University</i>	10,000
Suzanne G. Strait	<i>Marshall University</i>	6,350
Linda Vona-Davis	<i>West Virginia University</i>	1,000
Brian L. Antonsen	<i>Marshall University</i>	23,154
Venkat N. Gudivada	<i>Marshall University</i>	6,100

Research Challenge Grants

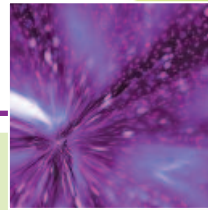
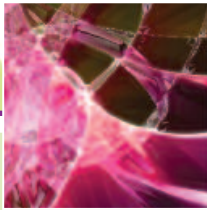
Maura McLaughlin	<i>West Virginia University</i>	541,111
Julio Davalos	<i>West Virginia University</i>	100,000
Arun Ross	<i>West Virginia University</i>	310,641
Ever Barbero	<i>West Virginia University</i>	159,580
Eric Blough	<i>Marshall University</i>	448,225

Research Proposal Mini-Grant Program

Gary E. Schultz Jr.	<i>Marshall University</i>	5,000
Krishnamurthy Subramani	<i>West Virginia University</i>	5,000
Bin Wang	<i>Marshall University</i>	5,000
Sarah M. Umphress	<i>WVU Institute of Technology</i>	5,000



FY
2011



Research Trust Fund for State Colleges and Universities

		\$
David R. Abruzzino	<i>Fairmont State University</i>	100,000
Suzanne Shipley	<i>Shepherd University</i>	99,893

Shared Research Facilities Support

Curt Peterson	<i>West Virginia University</i>	100,000
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STEM Fellows

Richard Niles	<i>Marshall University</i>	199,977
Peter Gannett	<i>West Virginia University</i>	300,000

Summer/Semester Undergraduate Research Experience

Colleen Nolan	<i>Shepherd University</i>	27,000
Keith Garbutt	<i>West Virginia University</i>	75,000
Jeanne Sullivan	<i>West Virginia Wesleyan College</i>	53,000
Michael Norton	<i>Marshall University</i>	75,000

Technical Assistance Grants

John Maher	<i>Marshall University Research Corporation</i>	144,000
David A. Miller	<i>West Virginia University</i>	5,000

Underrepresented Research Scholars Program

Frank R. O'Keefe	<i>Marshall University</i>	5,000
David A. Miller	<i>West Virginia University</i>	13,978

FY
2011

Grants Awarded by State Funds

Federal Grant Match

		\$
Richard Bajura	<i>West Virginia University</i>	200,000
John Maher	<i>Marshall University</i>	111,018
Curt Peterson	<i>West Virginia University</i>	177,629
Bingyun Li	<i>West Virginia University</i>	5,000
Jose U. Toledo	<i>West Virginia State University</i>	36,625

Innovation Grants

Edward A. Wovchko	<i>West Virginia Wesleyan College</i>	40,000
Kourosh Sedghisigarchi	<i>WVU Institute of Technology</i>	30,294

Instrumentation Grants

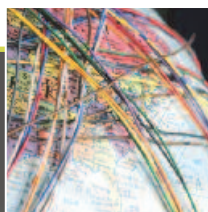
Carol Plautz	<i>Shepherd University</i>	19,755
Daniel DiLella	<i>Shepherd University</i>	18,234
Timothy D. Corrigan	<i>Concord University</i>	20,000
Kimberly A. Bjorgo-Thorne	<i>West Virginia Wesleyan College</i>	15,911
Gary Z. Morris	<i>Glennville State College</i>	8,658

Opportunity Grants

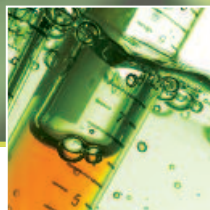
Wendy C. Trzyna	<i>Marshall University</i>	3,181
Thomas E. Wilson	<i>Marshall University</i>	4,641
Candy Cordwell	<i>West Virginia University</i>	8,000
John T. Burns	<i>Bethany College</i>	3,000
W. Constina Charbonnette	<i>West Virginia University</i>	5,000
Mridual Gautam	<i>West Virginia University</i>	10,000
Frank R. O'Keefe	<i>Marshall University</i>	1,669
Michael Castellani	<i>Marshall University</i>	8,000
Michelle Poland	<i>Fairmont State University</i>	1,000
Wendy C. Trzyna	<i>Marshall University</i>	500
Linda Vona-Davis	<i>West Virginia University</i>	1,000
Venkat N. Gudivada	<i>Marshall University</i>	5,000

Research Challenge Grants

Xingbo Liu	<i>West Virginia University</i>	400,000
Richard Niles	<i>Marshall University</i>	400,000
David Lederman	<i>West Virginia University</i>	364,000



FY
2012



Research Proposal Mini-Grant Program

		\$
Kaushlendra Singh	<i>West Virginia University</i>	5,000
Gary E. Schultz Jr.	<i>Marshall University</i>	5,000
Bonny L. Dickinson	<i>West Virginia School of Osteopathic Medicine</i>	5,000
Jennifer Weidhaas	<i>West Virginia University</i>	5,000
Timothy D. Corrigan	<i>Concord University</i>	5,000
Wendy C. Trzyna	<i>Marshall University</i>	5,000

Research Trust Fund for State Colleges and Universities

R. C. Byers	<i>West Virginia State University</i>	100,000
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STEM Fellows

Richard Niles	<i>Marshall University</i>	199,977
Peter Gannett	<i>West Virginia University</i>	300,000

Summer/Semester Undergraduate Research Experience

Colleen Nolan	<i>Shepherd University</i>	27,000
Keith Garbutt	<i>West Virginia University</i>	75,000
Jeanne D. Sullivan	<i>West Virginia Wesleyan College</i>	53,000
Michael Norton	<i>Marshall University</i>	75,000

FY
2012



Financial Statements

FINANCIAL STATEMENTS

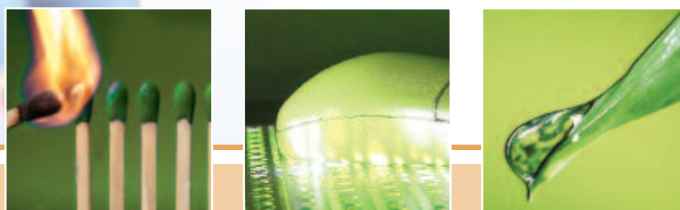
The following analysis of the Division of Science and Research financial statements provides an overview of its financial activities for the years ended June 30, 2011 and June 30, 2012.

Summarized Financial Information (unaudited)

Assets, Liabilities, and Net Assets

June 30	2012	2011
ASSETS		
Current Assets:		
Cash and cash equivalents	\$ 8,660,741	\$ 28,559,047
Interest receivable	679	2,327
Grants Receivable	133,530	9,622
Total current assets	8,794,950	28,570,996
Noncurrent Assets:		
Investment in plant, net	2,480	5,118
Total noncurrent assets	2,480	5,118
TOTAL ASSETS	\$ 8,797,430	\$ 28,576,114
LIABILITIES		
Current Liabilities:		
Accounts payable	\$ 812	\$ 943
Amounts due to institutions	776,307	607,688
Accrued liabilities	9,334	12,375
Compensated absences, current portion	26,530	46,031
Total current liabilities	812,984	667,036
Noncurrent Liabilities:		
Compensated absences	11,372	27,340
Accrued liabilities OPEB	166,886	128,774
Total noncurrent liabilities	178,258	156,114
TOTAL LIABILITIES	\$ 991,242	\$ 823,150
NET ASSETS		
Invested in capital assets, net of related debt	2,480	5,118
Restricted for:	-	-
Expendable:	-	-
Scholarships	-	-
Sponsored projects	6,727,980	26,076,735
Capital projects	-	-
Nonexpendable	-	-
Unrestricted	1,075,728	1,671,111
Total net assets	\$ 7,806,188	\$ 27,752,964
TOTAL LIABILITIES AND NET ASSETS	\$ 8,797,430	\$ 28,576,114

2011



	2012	2011
OPERATING REVENUES		
Contracts and grants:		
Federal	\$ 5,271,445	\$ 4,128,786
State	-	-
Local	-	-
Private	21,222	11,950
Miscellaneous-registration fees	-	-
Total operating revenues	5,292,667	4,140,736
OPERATING EXPENSES		
Salaries and wages	426,425	516,062
Benefits	84,149	170,687
Supplies and other services	497,247	307,311
Utilities	-	-
Research sub awards	27,745,764	24,012,223
Depreciation	2,638	3,315
Total operating expenses	28,756,223	25,009,598
OPERATING INCOME (LOSS)	\$ (23,463,556)	\$ (20,868,862)
NONOPERATING REVENUE (EXPENSES)		
State appropriations	3,500,509	,348,652
Investment income	16,272	70,745
Payments on behalf of EPSCoR	-	-
Net nonoperating revenue	3,516,780	3,419,397
INCOME BEFORE OTHER REVENUE, EXPENSES, GAINS OR LOSSES	(19,946,776)	(17,449,465)
CUMULATIVE EFFECT OF ADOPTION OF ACCOUNTING CHANGE		
	-	-
(DECREASE) IN NET ASSETS	(19,946,776)	(17,449,465)
NET ASSETS-BEGINNING OF YEAR	27,752,964	45,202,429
NET ASSETS-END OF YEAR	\$ 7,806,188	\$ 27,752,964

2012



West Virginia Higher Education Policy Commission

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