

**WEST VIRGINIA UNIVERSITY**  
**BOARD OF GOVERNORS**

February 18, 2016

The one hundred thirty-sixth meeting of the West Virginia University Board of Governors was held on February 18, 2016 in Morgantown, WV. Board members in attendance/participating by telephone included David Alvarez, George Capel, Ellen Cappellanti, James W. Dailey, II, Thomas Flaherty, Dr. Robert Griffith, J. Thomas Jones; Diane Lewis, Dixie Martinelli, William Nutting, J. Robert (J.R.) Rogers, Ed Robinson, Dr. Richard Turton, Dr. Kim Weaver and William Wilmoth. Board members, Gregory Babe and Raymond Lane, were absent and excused.

**WVU officers, divisional campus officers, representatives (and others) present included:**

President, E. Gordon Gee;  
Vice President, Legal, Government and Entrepreneurial Engagement, Rob Alsop;  
Provost, Joyce McConnell;  
General Counsel, Stephanie Taylor;  
Deputy General Counsel, Gary Furbee;  
Vice President for Finance and Administration, Narvel Weese;  
Vice President for Student Life, William Schafer;  
Vice Provost, Russell Dean;  
Vice President for University Relations, Sharon Martin;  
Vice President for Research, Fred King;  
Chief Financial Officer for WVU Health Sciences, Paula Congelio;  
Executive Officer and Assistant Board Secretary, Jennifer Fisher;  
Senior Associate Vice President for Finance, Dan Durbin;  
Associate Vice President for Planning & Treasury Operations, Liz Reynolds;  
Associate Vice President for Facilities and Services, Randy Hudak;  
Senior Management Auditor, Internal Auditing, Jared Weller;  
Student Affairs Chief Business and Planning Officer, Les Carpenter;  
Director of University Relations/News, John Bolt;  
Special Events Coordinator, Katie O'Connor; and,  
Special Assistant to the Board of Governors, Valerie Lopez.

**Members of the Press were also present.**

**CALL TO ORDER**

The meeting was called to order by Board Chairman, Thomas V. Flaherty, at 2:00 p.m. A roll call was taken to determine who was in attendance and a quorum established.

## BOARD PRESENTATIONS

### Academic Affairs Updates

Vice Provost, Russell Dean, provided information and updates to the full board on the following matters:

- Javier Reyes, an expert in global economic matters, an award-winning educator, an innovative leader in learning technologies, and an experienced relationship builder between industry and academics has been named the Milan Puskar Dean of West Virginia University's College of Business and Economics, effective June 30, 2016. Vice Provost Dean stated that Dr. Reyes is a truly extraordinary educator and will be a transformational leader here at WVU. Moreover, he has deep and broad expertise in international economics and in the specific economic issues we face as our rapidly-changing and increasingly globalized society. This expertise, combined with Dr. Reyes's commitment to excellent education, make him exactly who WVU wants leading the way as we educate the business leaders of tomorrow.
- On February 1, 2016 the Carnegie Classification of Institutions of Higher Education released its latest update, listing WVU as an R1, or highest research activity, university, a classification shared by only 114 of the more than 4,500 institutions of higher education in the United States.

Elaborating on the basic and applied research successes at WVU, Vice Provost Dean introduced Vice President for Research, Fred King, who offered the following remarks:

“From a Research perspective, it is a great day to be a Mountaineer. I like Russ Dean's bookends description. For reasons that will become apparent, I think of this as West Virginia University covering the spectrum of research from very applied to very basic, or fundamental.

A great example of our work in the applied area would be the Center for Alternative Fuels, Engines, and Emissions (CAFEE). It was there work for a nonprofit that led to the discovery of what has now become the Volkswagen Scandal. Led by Dan Carder, our researcher use instruments that measure the concentrations of carbon dioxide, carbon monoxide, oxides of nitrogen (referred to as NO<sub>x</sub>), unburned hydrocarbons, and particulates in the emission from internal combustion engines. These instruments look at either the absorption or emission of light at wavelengths characteristic of the various molecules. In conducting tests of the engines under conditions that simulate performance on the road as well as in a traditional garage testing environment, our researchers noticed that the emissions varied significantly. When tested under emissions inspecting conditions, such as at a garage, emissions were within the required specifications; however, when tested under simulated highway conditions, emissions were found to exceed those specifications. This led to the discovery that software on board the automobile that controls emission control systems, was designed to fully implement those systems

only under garage emission inspection conditions. When the software found information consistent with highway travel, changes in barometric pressure, humidity, and other environmental factors, it would shut down emission controls systems so as to provide better vehicle performance. Our researchers have been developing the expertise over several decades that make the leaders in the field of conducting such testing.

I mention how the instrument works because to begin to illustrate that such applied research has roots in very fundamental or basic research. In this case fundamental research aimed at understanding the interaction of electromagnetic radiation, light, with different chemical species led to the development of the instrumentation used by CAFEE researchers in their applied research. Of course, there are several steps along the path of translation from very fundamental research to very applied research – it really is a spectrum of continuous refinements and adaptations.

That being said, I want to now turn to what might be the most important fundamental physics discovery of our time – the detection of gravitational waves providing the final confirmation of predictions from Einstein’s Theory of General Relativity. A discovery, once again, where Mountaineers played a key role. It has been said that this discovery is akin to when Galileo first looked through the telescope to begin unravelling the secrets of the universe.

From the time of Galileo’s milestone accomplishment until today, all we know about the universe has been achieved by monitoring the electromagnetic spectrum, visible light being the most familiar example of electromagnetic radiation. Such radiation ranges from very small frequencies to very high frequencies and includes the radio, microwave, and x-ray regions. These arise from perturbations in the electromagnetic field. Gravitational waves now offer a completely different window on the universe, looking at perturbations in the gravitational fields rather than the electromagnetic. Just as when Galileo began using light, we have no way of predicting the many applied utilities of gravitational waves may be developed in the future. Today, modern telecommunications is the realm of manipulation of the electromagnetic spectrum, the work of CAFEE depends on our understanding of that same spectrum, and in fact, the detection of gravitational waves was accomplished by applying our understanding of that spectrum.

These waves were detected by two very large instruments in the US, one in the State of Washington, and one in the State of Louisiana. They are the same instruments but placed at different locations to provide verification of observations made by each other. Each instrument is an interferometer, essentially two reflected paths of light at right angles to one another. As a laser light burst is generated at a central point and sent down these two paths, traversing 4 kilometers, it strikes a mirror and then returns to that point of origin. The system is adjusted such that the light paths are equal and then arrive at the point of origin at the same time. If for some reason the path distance changes, the light arrives from each path at a slightly different time, and the intensity measured will dim. You will recall from Maura

McLaughlin's presentation on gravitational waves at a previous meeting, these waves distort, ever so slightly, the shape of the earth – elongating along one axis and contracting along another. When this occurs along the light path of the interferometer, we see the signal indicative of gravitational waves passing by – this is what the team that Professor Sean McWilliams found back in September. I want to note that just like the electromagnetic spectrum, gravitational waves have their own spectrum. This discovery was made in one part of that spectrum. Professors McLaughlin and Lorimer continue their work on detection of gravitational waves in another part of that spectrum. Rather than using the point laser source and earth based interferometers, their approach relies on precise timing of pulsars separated by light years rather than kilometers. Just like the experiment above, as gravitational waves move through the universe, they change, ever so slightly, the distance between the radio telescope on earth and the pulsar, resulting in a slight shift of a pulses arrival time. They are using the radiofrequency part of the electromagnetic spectrum in the effort to detect these gravitational waves of a different frequency than those detected by Professor McWilliams. In the end, gravitational waves enable us to study some very fundamental astrophysics and understand the very origins of the universe. An immediate example in Professor McWilliams work, is the observation of a black hole, not visible in the electromagnetic spectrum, but clearly observable via gravitational waves. This opens a completely new window on our universe and our ability to understand it.

Most exciting of all, it is the faculty and students of West Virginia University that are on the forefront of these very significant discoveries – applied and fundamental.”

## **Legislative Updates**

Vice President, Legal, Government and Entrepreneurial Engagement, Rob Alsop, provided an overview of current matters related to West Virginia's legislative session that may affect West Virginia University and its divisional campuses. Below are highlights from his presentation:

- Revenues for the State continue to be in a state of significant stress. The Governor made the mid-year cut of 4% for most agencies (including WVU) permanent in his budget. We are watching the Legislature closely to see what action develops.
- We continue to work and move forward on our WVU Institute of Technology Legislation. The likely path is passage through the House of Delegates first and then on to the Senate. While we remain optimistic, we continue to work through issues with the local governments in Montgomery and with Bluefield State College and Concord University.
- The Legislature's two main items for this session will be passage of a right to work law and prevailing wage laws. Both are expected to pass.
- The Legislature continues to look to WVU for leadership, and we remain in a strong position to continue to move the State forward.

## **EXECUTIVE SESSION**

Chairman Flaherty requested a motion that the Board go into Executive Session, under authority in West Virginia Code §§6-9A-4(b)(2)(A), (b)(9), and (b)(12) to discuss legal, personnel, and deliberative matters; matters not considered public records; matters related to construction planning, commercial competition matters, the purchase, sale or lease of property, and/or the investment of public funds. The motion was made by Ellen Cappellanti, seconded by William Wilmoth, and passed. Following the conclusion of Executive Session, David Alvarez moved that the Board reconvene into regular session. This motion was seconded by James W. Dailey, II, and passed.

## **DISCUSSIONS EMANATING FROM EXECUTIVE SESSION**

Chairman Flaherty announced that nothing discussed in today's Executive Session required Board action.

## **APPROVAL OF MINUTES**

William Nutting moved that the minutes of the December 18, 2015 regular meeting be approved. The motion was seconded by Ellen Cappellanti, and passed.

J. Robert (J.R.) Rogers moved that the minutes of the January 21, 2016 special meeting be approved. The motion was seconded by Diane Lewis, and passed.

## **COMMITTEE REPORTS**

William Wilmoth, Audit Committee Chairman, reported on the January 21, 2016 Joint Audit and Finance and Facilities and Revitalization Committee meeting, during which Vice President Narvel Weese and Associate Vice President, Dan Durbin, provided an overview of the Audited Financial Statements for FY 2015. Chairman Wilmoth stated that during Executive Session, board members had an opportunity to discuss the financial statements and audit report with WVU's External Audit firm, CliftonLarsonAllen. When the committee returned to public session, the FY 2015 Financial Statements and Audit Report were accepted and approved by the Audit Committee, with a recommendation that the full board also approve the same.

William Wilmoth, Audit Committee Chairman, reported on the February 18, 2016 Audit Committee meeting, during which Vice President Narvel Weese provided updates on several issues and Senior Associate Vice President, Dan Durbin, provided an update related to the WVU Research Corporation's FY 2015 annual financial statements and A-133 compliance audit report – at the conclusion of which update the Audit Committee accepted and approved said financial statements and audit report, as presented. Chairman Wilmoth also stated that during Executive Session reports were given by the Director of Internal Audit, Bryan Shaver, and General Counsel, Stephanie Taylor.

Thomas Flaherty, Chairman of the Strategic Plans and Initiatives Committee, reported that a Joint Strategic Plans and Initiatives and Academic Affairs and Accreditation Committee meeting was held this morning, during which Executive Session discussions took place – and there was no Board action to report as a result of this joint committee meeting.

David Alvarez, Chairman of the Finance and Facilities and Revitalization Committee, reported that this committee also met this morning, during which Executive Session discussions took place – and there was no Board action to report as a result of this committee meeting.

## **PRESIDENT'S REPORT**

During his report, President Gee re-emphasized the importance of the new Carnegie research classification and noted he will hold a special State of the University on March 1 to both celebrate that milestone and outline a vision for continued momentum. Dr. Gee also noted the medical amnesty policy as important for students, and touched on earlier comments about the current legislative session.

## **INFORMATION ITEMS**

There were no questions or concerns expressed by any Board members pertaining to the Information Items contained within the agenda.

## **CONSENT AGENDA**

Chairman Flaherty called for any discussion of today's Consent Agenda items, and asked whether any items needed to be pulled for a separate discussion/vote. There being none, J. Robert (J.R.) Rogers moved that the Board accept the Consent Agenda items as presented in today's agenda booklet. This motion was seconded by William Wilmoth, and passed

Thereupon, the following Consent Agenda items were approved:

- 1. Approval of New Degree Program: Doctor of Philosophy in Forensic Sciences**  
Resolved: That the West Virginia University Board of Governors approves the creation of the Doctor of Philosophy in Forensic Science in the Eberly College of Arts and Sciences.
- 2. School of Pharmacy – Laboratory Renovation Project**  
Resolved: That the West Virginia University Board of Governors approves the renovation of Pharmacy Lab 2033 and related spaces. Furthermore, the Board of Governors incorporates this project as a component of the WVU Master Plan.
- 3. Student Recreation Center Roof Replacement**  
Resolved: That the West Virginia University Board of Governors approves replacement of the Student Recreation Center Roof.

## **OTHER BUSINESS**

Chairman Flaherty announced that the Board will conduct its next regular meeting in Morgantown on April 15, 2016.

## **ADJOURNMENT**

There being no further business to come before the Board, Dr. Robert Griffith moved to adjourn the meeting. The motion was seconded by Dixie Martinelli, and passed. The meeting was adjourned at 3:23 p.m.

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Diane Lewis, Secretary