STATE COUNCIL OF HIGHER EDUCATION FOR VIRGINIA
AD HOC COMMITTEE ON RESEARCH MEETING
FEBRUARY 23, 2017
MINUTES

Dr. Murray called the meeting to order at 1:05 p.m. in the SCHEV Main Conference Room, 9th Floor, James Monroe Building, Richmond, Virginia.

Committee members present: Ken Ampy (left the meeting at 2:20 p.m.), William Murray, Minnis E. Ridenour

Council member present: Henry Light

VRIC members present: Karen Jackson, Ric Brown, Peter Blake

Staff present: Peter Blake, Alan Edwards, Lynn Seuffert, Joe DeFilippo. Al Wilson, SCHEV counsel from the Office of the Attorney General, also was in attendance.

Invited guests: Representatives from public institutions of higher education in Virginia.

WELCOME AND INTRODUCTIONS

Dr. Murray welcomed committee members, VRIC members, the attending Council member, staff, and guests and asked all to introduce themselves.

Dr. Murray asked Mr. Blake to provide an update on the recent amendments by the General Assembly to the Virginia Research Investment Fund and associated budget language.

Mr. Blake highlighted the changes, including the move to SCHEV of the responsibility to develop and maintain the Commonwealth Research and Technology Strategic Roadmap and the expansion of the role and scope of the Virginia Research Investment Committee. He mentioned that the budget includes $12 million in general funds for VRIF awards; the debt authorization did not change. He also mentioned that a change in the budget language will authorize VRIC to use an unspecified portion of the appropriated amount of general funds for an assessment of research assets and the best areas of research for commercialization.

Mr. Blake concluded by asking everyone to participate and help make VRIF a success.

REVIEW OF TRENDS AND CURRENT STRENGTHS IN VIRGINIA HIGHER EDUCATION RESEARCH

Dr. Murray requested that staff explain the information depicted in the projected slides, which were variations of Figure 1 in "Staff Report – Virginia Areas of Research Strength." Ms. Seuffert highlighted the areas of research expertise at Virginia institutions, as evidenced by expenditures of research funds, and the correlated patent awards that indicate areas of research with potential to culminate in commercialization, economic development, and job creation. The third element on the first slide illustrated the areas of research strength in the federal and private sector, as indicated by patent awards in those sectors. Finally, the alignment of the areas of research mentioned in the VRIF statute was described.

University attendees pointed out that categories assigned by the U.S. Patent Office (USPO) do not correspond to academic departments. For example, a patent categorized by the USPO as "physics" usually is not awarded to a researcher in an institution's department of physics.

DISCUSSION OF FUTURE DIRECTIONS: BUILDING ON STRENGTHS AND IDENTIFYING NEW OPPORTUNITIES

Dr. Murray opened the topic by requesting comments from the Commonwealth's top university in research expenditures, Virginia Tech. Dr. Theresa Mayer recapped her participation that morning in the meeting of the Association of Public and Land-Grant University's Council on Research Executive Committee, where the future of federal research funding was discussed. She said speakers had suggested to attendees that they should develop a narrative for elected representatives in Washington about the importance of federal funding for research.

A lively and lengthy roundtable conversation between Council members and institutional representatives ensued.

Four topics emerged from the discussion and are summarized below:

1. Institutions' areas of research strength and the alignment of these areas to those designated in the statute;
2. Recruitment and retention of research talent and the talent pipeline;
3. Intellectual property expertise; and
4. Other needs

1. Institutions' areas of research strength and the alignment of these areas to those designated in the statute

Speakers generally agreed that the three research areas identified in the statute – biosciences, cybersecurity, and data analytics – are aligned with areas of strength at many institutions and are sufficiently broad to provide opportunities for all public institutions to participate in some fashion.

Among the areas of research not mentioned in the statute, those for which at least one institution would like to submit proposals include:

- Agriculture;
- Aquaculture (commercialization opportunities exist, such as the current oyster licensing of GMO oysters for disease resistance);
- Renewable energy (clean energy is being demanded by individual customers; energy storage is an area of opportunity);
- Coastal resilience (the economic development opportunity is in "green collar" jobs; i.e., engineering to retrofit stormwater systems; the green collar sector needs to be credentialed and Virginia can be first out of necessity);
- Population health; and
- Education and social sciences (an argument was made that patentable ideas are emerging in these areas).

2. Recruitment and retention of research talent and the talent pipeline

Speakers generally agreed that institutions are seeking to recruit early-stage or rising super-stars, rather than Nobel Prize winners. Some speakers suggested that the statute's "eminent researcher" terminology be modified in the grant guidelines to reflect that reality. These rising super-stars should be entrepreneurial and bring with them strong connections to federal agencies and industry.

Speakers also agreed that institutions are seeking to hire clusters of faculty around key topic areas, bringing in multiple entrepreneurial researchers to build a critical mass working in complementary areas. Helping them to build cross-institutional collaborations here in Virginia (a "web of professionalism") is a strategy to ward off "poaching."

These collaborative and complementary clusters also contribute to the talent pipeline by attracting the best students to their associated undergraduate and graduate programs. Many graduate students are entrepreneurial and are attracted to programs that provide opportunities in that area.

Attendees from the comprehensive institutions commented that, unlike their research-university counterparts, they generally lack the resources to recruit rising super-stars. Instead, they "grow their own" talent. They focus on having a supportive environment for young faculty to grow into researchers. They also said that collaboration with the research universities helps to grow their researchers. New faculty, with new energy for research, need to get connected with researchers at larger institutions. These connections benefit both small and large institutions.

Several attendees noted the importance of endowed positions to attract rising stars. Endowments of $2 million are at the lower end. Earnings from the endowment can be used to fund the operations. An endowment does not replace a start-up package. Institutions need to offer both.

3. Intellectual property expertise

As the conversation turned to the support that researchers need related to commercialization of the products of their research, Mr. Ampy mentioned a recent visit to MIT and its well-resourced patent and licensing offices. He asked attendees about support at Virginia institutions.

The comprehensive (non-research) institutions were vocal about their need for resources to develop expertise in this area, both related to negotiating agreements with industry or contracts with federal agencies, as well as assisting principal investigators to consider commercial potential earlier in the research continuum. These investigators need mentoring or other professional development to move their basic research to an application.

The research universities agreed that their faculty also need this mentoring and a better connection between their lab and the IP offices.

Attendees discussed whether shareable best practices and policies exist for patents and IP.

A committee member commented that the corporate sector has skilled contract negotiators who ensure that industry gets the most benefit out of a deal with a university; institutions need to have strong negotiators to ensure that they aren't giving away valuable assets. An attendee mentioned a movement away from strong protectionism of IP in order to lower the barriers to partnering with industry; universities have been accused in the past of overvaluing their IP.

One attendee highlighted the individuality of each deal with industry. Each industry partner has its own terms and conditions for contracts for IP and each deal is different.

4. Other needs

Institutions noted their need for support for infrastructure. For example, one attendee highlighted the need for infrastructure to position the university to compete for larger Department of Defense and Homeland Security contracts, which generate fees and income to support applied research. Another mentioned the need for instrumentation.

Another institutional representative mentioned the need for funding to support a bio-repository of tissue samples. These bio-repositories are usually collaborations among multiple institutions. The repository needs to be accredited and, once it is, it will attract industry commitments. Bio-repositories have the potential for global impact.

Another attendee highlighted the need for Virginia to pivot away from reliance on federal funding for research. Institutions must diversify their funding streams. Creating and sustaining long-term partnerships with the private sector is critical. A committee member commented that the private sector does want to help the state diversify the economy and a role exists for the state to act as an honest broker to bridge gaps between industry/business and academic institutions, looking for common opportunities.

Another attendee suggested that Virginia is at a disadvantage due to lack of funding sources to commit as matching funds for large federal awards, such as manufacturing institutes or NSF center grants. Investments of cash and in-kind resources are needed from the state, which would need to respond quickly when the solicitation for proposals is released.

Another attendee pointed out that if the Commonwealth and/or one or more of its public institutions are interested in competing for the electron collider at Jefferson Lab, a match of tens of millions of dollars will be required. The possibility exists that those matching funds could include bond funds.

Finally, one attendee suggested that VRIF funds are needed for proof-of-concept projects because Virginia does not provide enough support for this stage of research.

BREAK

Dr. Murray called for a break at 3:15 p.m. The meeting resumed at 3:25 p.m.

DISCUSSION OF DRAFT ORGANIZING PRINCIPLES AND THE PLACEMENT OF VRIF ALONG THE RESEARCH CONTINUUM

Dr. Murray led the review of this document.

Regarding the document's Item 3, Dr. Murray asked for comments about the proposal of a "limited submission" competition. No one objected to the proposed limit. However, attendees said that any time-bound grant cycle presents a challenge in terms of proposals for researcher recruitment and for the timing of the grant cycle in relation to the timing of their plans to offer start-up packages.

Secretary Brown raised the potential that, in the future, the limitations would extend to the focus area(s) for which proposals would be accepted. He foresees a need for Virginia to make a state-level determination regarding how VRIF can achieve success and achieve the biggest "bang for its buck." VRIF funding is unlikely to increase; therefore, at some point, VRIC will have to decide on a specific focus to make a mark, and proposals will have to align with that.

Regarding the document's Item 4, Dr. Murray suggested, given the previous discussion, that the ad hoc committee request that VRIC consider proposals for major economic development opportunities, such as federal centers, broad sector opportunities for green collar jobs, bio-repositories, etc.

Regarding the document's Item 12, Committee members suggested that endowment of funds (beyond the grant period awarded) could be considered in certain circumstances.

Dr. Murray concluded with a general comment that the ad hoc committee should be careful of excess rigidity when developing the guidelines.

DISCUSSION OF NEXT STEPS

Dr. Murray requested that the ad hoc committee on research meet again prior to March 14 in order to endorse the revisions to the organizing principles document so that staff can present it at the VRIC meeting on that date.

REPORT FROM STAFF

This agenda item, consisting of the legislative update, was moved to the beginning of the agenda.

ADJOURNMENT

Dr. Murray adjourned the meeting at 4:00 p.m.

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William Murray
Chair, SCHEV Ad Hoc Committee on Research

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Lynn Seuffert
Associate for Research Investment