

310-1  
MINUTES OF MEETING  
**BOARD OF TRUSTEES**  
VOLUME 310  
February 22, 2019

A meeting of the Board of Trustees was held in Dean's Hall of the Penn Stater Hotel and Conference Center, University Park, PA, at 2:00 p.m. on February 22, 2019.

The following Trustees were present: Dambly (chairman), Amoros, Brown, Casey, Cotner, Dandrea, Delligatti, Detwiler, Dietrich, Doran, Dunn, Fenza, Han, Harpster, Hoeschele, Hoffman, Jubelirer, Kleppinger, Lubert, Masser, Oldsey, Paterno, Pegula, Pope, Potts, Rapp, Schneider, Short, Stanell, Steele, and Tribeck. The Governor's non-voting representative, Mr. Shipley, was also in attendance. Participating by phone were Trustees Hartzler and Schuyler (vice-chairman).

Present by invitation were Faculty Senate members Bérubé, Nousek, Rowland, Seymour, Taylor, and Woessner; student representatives Carvajal, Hairston, Heaton, McKinney, and Winkler; representatives Jacob and Wagman; and staff members Andrews, Barbour, Bieschke, Dunham, Gray, Guadagnino, Hillemeier, Huston, Jones, Kubit, Lokman, Moore, Mulroy-Degenhart, Pangborn, Sims and Whitehurst.

Chair Dambly called the meeting to order and noted that the Board met in Executive Session earlier in the day to discuss various privileged matters. He welcomed the University's new Chief Ethics and Compliance Officer, Kenya Mann Faulkner, and noted that the new Vice President for Human Resources, Lorraine Goffe, will begin on March 1. He announced other additions to the University, including the Dean of the College of Health and Human Development, Craig Newschaffer; Patrick Jones, Chancellor of Penn State Schuylkill; and effective July 1, 2019, Danielle Conway, Dean of Dickinson Law. He thanked Greg Stoner for serving as the Interim Vice President for Human Resources.

Chair Dambly then introduced three student guests who shared presentations with the Board. Kelly McCready, THON Executive Director, reported on her year in this role, its impact on her personal growth, and her on-going commitment to THON's mission. Andrew Elder, a Ph.D. student in food science and food chemistry research, recipient of a University Graduate Fellowship, and pre-doctoral fellow of the U.S. Department of Agriculture, spoke about his research at Penn State and his cutting-edge work in food product development. Gudmundur Stefansson, a Ph.D. student in astronomy and astrophysics, and NASA Earth and Space Science fellow, spoke about his research focus on exoplanets, including the design, building, assembly, and testing of spectrographs used in their detection.

Chair Dambly announced that this would be the final Board meeting of the academic year for the current slate of student leaders and thanked them for their service. He then thanked Trustee Oldsey for representing the Board on the University selection committee for the Penn State Laureate, and finally, recognized the attendance of Emeriti Trustees Eckel, Riley, and Shaffer.

Janine Andrews, Associate Secretary of the Board, reported that all Trustees but Barron, Rakowich, Redding, Rivera, and Wolf were in attendance. Chair Dambly noted that the number present for a quorum was satisfied and proceeded with the meeting.

### **Naming Opportunity**

Chair Dambly reported that the Board was briefed in executive session about a recent gift to the University, and subsequent naming opportunity. Provost Nicholas Jones provided background about the generous endowment gift of Penn State alumnus and philanthropist, John Leone, which provides a gift of \$6.5 million to the University. \$5 million of the total gift is to be used to endow the John Leone Dean's Chair in the College of Earth and Mineral Sciences, with the remaining \$1.5 million to be used in the planned renovation of the Lasch Football Building at University Park. A motion to approve the naming of the John Leone Dean's Chair in the College of Earth and Mineral Sciences was made, seconded and approved by the Board.

**Action Items – Consent Agenda**

Chair Dambly noted that Action Items presented in the Consent Agenda had been bundled for the sake of efficiency, but that each Trustee was entitled to request that any item be discussed and voted on individually. No such requests were made. The Committee on Audit and Risk recommended that the Board of Trustees approve resolution C. The Committee on Finance, Business and Capital Planning recommended that the Board of Trustees approve resolutions D-J. The Committee on Governance and Long-Range Planning recommended that the Board of Trustees approve resolutions K and L. The Committee on Legal and Compliance recommended that the Board of Trustees approve resolution M. A motion to approve each of the following Action Items, A-M, was seconded and approved by the Board:

A. Approval of the *Minutes* of the meetings of the Board held on November 9, 2018.

B. Proposed 2020 dates for meetings of the Board of Trustees.

The Board approved the proposed meeting dates for 2020 as follows (unless otherwise noted, all meetings will be held at University Park; July 2020 meeting will include a professional development retreat):

February 20-21, 2020	(Thursday-Friday)
May 7-8, 2020	(Thursday-Friday)
July 16-17, 2020	(Thursday-Friday) – Penn State York
September 17-18, 2020	(Thursday-Friday)
November 12-13, 2020	(Thursday-Friday)

C. Proposed Authorization to Engage Auditors

RESOLVED, That the Officers of the University are authorized to engage Deloitte & Touche LLP, Certified Public Accountants, for the audit of the accounts of the University for the year ending June 30, 2019.

D. Proposed Appointment of an Architect, College of Engineering Research and Teaching Space 1, University Park

RESOLVED, That the Officers of the University are authorized to employ Payette of Boston, Massachusetts, to design the College of Engineering Research and Teaching Space 1, University Park.

FURTHER BE IT RESOLVED, Final plans for the project will be brought to the Board of Trustees for approval when designed and costs have been established.

E. Proposed Appointment of an Architect, College of Engineering Research and Teaching Space 2, University Park

RESOLVED, That the Officers of the University are authorized to employ Payette of Boston, Massachusetts, to design the College of Engineering Research and Teaching Space 2, University Park.

FURTHER BE IT RESOLVED, Final plans for the project will be brought to the Board of Trustees for approval when designed and costs have been established.

F. Proposed Appointment of a Design Build Team, Ostermayer Laboratory Renovation, Penn State Greater Allegheny

RESOLVED, That the Officers of the University are authorized to employ Turner Construction Company of Pittsburgh, Pennsylvania, to design the Ostermayer Laboratory Renovations, Penn State Greater Allegheny.

FURTHER BE IT RESOLVED, Final plans for the project will be brought to the Board of Trustees for approval when designed and costs have been established.

G. Proposed Final Plan Approval and Authorization to Expend Funds, East Halls Renovation – Phase 2a, University Park

RESOLVED, That the final plans for the East Halls Renovation – Phase 2a at University Park, as designed by Clayco of St. Louis, Missouri, are approved.

FURTHER BE IT RESOLVED, That authorization to expend funds to accomplish the project is approved in the amount of \$60,800,000.

H. Proposed Final Plan Approval and Authorization to Expend Funds, Water Reclamation Facility, University Park

RESOLVED, That the final plans for the Water Reclamation Facility at University Park, as designed by The Haskell Company of Pittsburgh, Pennsylvania, are approved.

FURTHER BE IT RESOLVED, That authorization to expend funds to accomplish the project is approved in the amount of \$65,200,000.

I. Proposed Relocation of Applied Research Laboratory Steam Plant, Benner Township

RESOLVED, That the final plans for the Relocation of the Applied Research Laboratory Steam Plant to Benner Township, as designed by Hoffman Leahey Architects of Boalsburg, Pennsylvania, are approved.

FURTHER BE IT RESOLVED, That authorization to expend funds to accomplish the project is approved in the amount of \$14,500,000.

J. Proposed Changes in Room and Board Charges for 2019-20 Academic Year

RESOLVED, That room and board charges at all locations be increased as shown on Schedules I through V attached hereto and which are a part of this resolution.

[See Appendix I]

K. Proposed Approval for Extending “Our Commitment to Impact: The Pennsylvania State University’s Strategic Plan for 2016-2020”

WHEREAS, The Board of Trustees at its February 26, 2016 meeting formally acknowledged its concurrence with “Our Commitment to Impact: The Pennsylvania State University’s Strategic Plan for 2016 to 2020” (the “Strategic Plan”); and

WHEREAS, A formal structured assessment will assist in evaluating the University’s progress against the Strategic Plan and enable units to adjust and revise their individual plans in order to align with future directions and long-term vision, as set forth in the Strategic Plan;

WHEREAS, The Committee on Governance and Long-Range Planning has approved the extension of the Strategic Plan through 2025;

THEREFORE BE IT RESOLVED, That the Board of Trustees concurs that the Strategic Plan be extended through 2025.

L. Proposed Revisions to Penn State Health *Bylaws*

WHEREAS, Eleven directors of Penn State Health are elected by the Board of Trustees of The Pennsylvania State University; and

WHEREAS, The Board of Directors of Penn State Health has approved bylaw amendments removing the requirement that the positions of Dean of the College of Medicine and Chief Executive Officer be vested in the same individual; and

WHEREAS, The Board of Directors of Penn State Health has approved bylaw amendments removing the requirement that the positions of Dean of the College of Medicine and Chief Executive Officer be vested in the same individual and inserting a requirement that one of Penn State's eleven appointed directors will be the Dean of the College of Medicine if that individual is not serving as the President/CEO of Penn State Health; and

THEREFORE BE IT RESOLVED, That the Board of Trustees approves Penn State Health amending its *Bylaws* as set forth in Appendix II hereto.

[See Appendix II]

M. Proposed Annual Applications, Renewals, and other Filings Required by the Pennsylvania Liquor Control Board

WHEREAS, It is the desire of The Pennsylvania State University to sell and serve alcoholic beverages under the conditions previously approved by the Board of Trustees; and

WHEREAS, It is the desire of The Pennsylvania State University to file appropriate applications for licensures and permits either through an application processes, biennial application renewal processes, or a validation process, as applicable; and

THEREFORE BE IT RESOLVED, That David J. Gray, Senior Vice President for Finance and Business/Treasurer and/or Joseph J. Doncsecz, Corporate Controller, or any appropriate designee(s), is/are authorized to execute applications, renewal forms, and any other documents or instruments required by the Pennsylvania Liquor Control Board, and to take such other actions as may be required in connection with any such applications, renewals or validations; and

RESOLVED FURTHER, That material changes to the terms and conditions previously approved by the Board of Trustees with respect to such licenses and permits shall be submitted to the Board of Trustees for its consideration and approval.

**President's Report and Discussion**

In President Barron's absence, Vice President for Research, Neil Sharkey, delivered a report on Penn State's Research Enterprise and its role in supporting the land-grant mission. Dr. Sharkey began by noting the Penn State's first President, Evan Pugh, set forth the research mission in 1859 by saying, "No true teacher contents himself with merely attending his classes, and sitting down with ease after he has got them to work. He is studying constantly himself, making original investigations and publishing them to the world." Dr. Sharkey continued by outlining the value of research: it drives progress in the Commonwealth, nation and the world; it attracts leading faculty; it provides experiences for students that enable career

success; it is crucial for standing among AAU, Big Ten and other world-class institutions, which is a major factor in student applications and faculty recruitment and retention. The rest of the presentation provided support, statistics, and examples that supported each of these points. It also elaborated on how research leads to university impact, impact on students, economic development impact and strategic impact.

Recorded remarks are available at <https://bit.ly/2CqxpOe>. For companion slides, reference Appendix III.

[Appendix III]

**Announcements by the Chairman of the Board of Trustees**

In closing, Chair Dambly called for other matters to come before the Board. There being no other business, the public meeting was adjourned at 3:00 p.m. The meeting is available in its entirety at <https://bit.ly/2CqxpOe>.

Respectfully submitted,

Janine S. Andrews  
Associate Secretary,  
Board of Trustees

## Proposed Residence Hall Room Rates and Undergraduate Apartment Rates

Rate/Person/Semester

Room Description	Number of Occupants	2018/19 Current Rate	2019/20 Proposed Operating Increase	2019/20 Proposed Capital Assessment	2019/20 Proposed Rate	2019/20 Proposed Increase
Standard Double	2	\$3,185	\$29	\$63	\$3,277	\$ 92
Standard Double/Bath	2	3,355	33	67	3,455	100
Renovated Double	2	3,490	68	70	3,628	138
Small Double	2	2,385	22	48	2,455	70
Triple	3	2,865	28	57	2,950	85
Triple/Bath	3	3,185	31	64	3,280	95
Quad	4	2,865	28	57	2,950	85
Quad/Bath	4	3,185	31	64	3,280	95
Quad as Triple	3	3,185	31	64	3,280	95
Standard Single	1	4,330	43	87	4,460	130
Standard Single/Bath	1	4,420	42	88	4,550	130
Renovated Single	1	4,420	42	88	4,550	130
Eastview Single/Bath	1	5,430	0	110	5,540	110
Eastview Large Single/Bath	1	5,830	0	115	5,945	115
RA Rate	1	1,990	20	40	2,050	60
Standard Double Suite	2	3,765	35	75	3,875	110
Standard Double Suite as Triple	3	3,185	31	64	3,280	95
Standard Single Suite, 1/bedroom	4	4,390	42	88	4,520	130
Double Suite	2	4,040	39	81	4,160	120
Single Suite	1	5,310	0	105	5,415	105
<b>University Park, Nittany Apartment</b>						
<i>Rate/Person/Semester*</i>						
2 Bedroom Garden	4	3,860	38	77	3,975	115
4 Bedroom Garden	4	4,330	43	87	4,460	130
4 Bedroom Townhouse	4	4,495	45	90	4,630	135
<b>Erie, Behrend Apartment</b>						
<i>Rate/Person/Semester*</i>						
2 Bedroom Garden	4	3,860	38	77	3,975	115
<b>Harrisburg &amp; Abington Apartment</b>						
<i>Rate/Person/Semester*</i>						
Apartments-Bedroom Single	4	4,605	88	92	4,785	180
Apartments-Bedroom Double	6	4,050	79	81	4,210	160
Apartments-Bedroom Triple	9	3,645	72	73	3,790	145
<b>Beaver, Greater Allegheny, Hazleton, &amp; Mont Alto</b>						
Standard Double	2	3,090	0	0	3,090	0
Standard Double Suite	2	3,650	0	0	3,650	0
Townhouse Double	2	3,255	0	0	3,255	0

Supplemental assignments will be priced at a 20 percent discount from the applicable suite or room rate. Single occupancy of rooms intended for double occupancy will be priced at 25 percent more than the double occupancy rate for that room type.

## Approved University Park Graduate Apartment Rates

The following 2019/20 rates were approved by the Board of Trustees in September 2018.

Room Description	2018/19 Rate	2019/20 Rate
<b>University Park, Graduate Family Apartment</b>		
<i>Rate/Month*</i>		
White Course 1 Bedroom	\$1,125	\$1,145
White Course 2 Bedroom	1,275	1,295
White Course 3 Bedroom	1,430	1,430
White Course 3 Bedroom w/2 Bath	1,445	1,445
<b>University Park, Graduate Apartment</b>		
<i>Rate/Person/Month*</i>		
White Course 4 Bedroom	905	920

*\*Apartment rate includes utilities*

**Proposed Board Plan  
Rates/Semester**

<b>Meal Plan</b>	<b>2018/19 Current Rate</b>	<b>2019/20 Proposed Rate</b>	<b>2019/20 Proposed Increase</b>	<b>2019/20 Dining Dollars</b>
<b>Plan 1</b>	\$2,025	\$2,070	\$45	\$655
<b>Plan 2</b>	2,345	2,399	54	984
<b>Plan 3</b>	2,600	2,665	65	1,250

**History of Double Room and Mid-Level Meal Plan Rates 2010–2020**

<b>Year</b>	<b>Semester Rate</b>	<b>Semester Increase</b>	<b>Percent Increase</b>
<b>2019/20</b>	\$5,676	\$146	2.64%
<b>2018/19</b>	\$5,530	\$135	2.50%
<b>2017/18</b>	\$5,395	\$165	3.15%
<b>2016/17</b>	\$5,230	\$155	3.05%
<b>2015/16</b>	\$5,075	\$190	3.89%
<b>2014/15</b>	\$4,885	\$200	4.27%
<b>2013/14</b>	\$4,685	\$190	4.23%
<b>2012/13</b>	\$4,495	\$125	2.86%
<b>2011/12</b>	\$4,370	\$185	4.42%
<b>2010/11</b>	\$4,185	\$100	2.45%
<b>2009/10</b>	\$4,085	\$250	6.52%



**UNIVERSITY MANOR APARTMENTS**

**CURRENT vs. PROPOSED MONTHLY RENTAL RATES**

<b>Type Occupancy</b>	<b>No. Units</b>	<b>Current Rates Per Apt.</b>	<b>Proposed Rates Per Apt.</b>	<b>Amount Increase</b>
<b>University Manor East</b>				
1 Bedroom (with Washer/Dryer)	24	\$ 965	\$ 985	\$ 20
2 Bedroom (with Washer/Dryer)	208	\$ 1,150	\$ 1,172	\$ 22
3 Bedroom (with Washer/Dryer)	16	\$ 1,298	\$ 1,320	\$ 22
<b>University Manor West</b>				
4 Bedroom (furnished) *	31	\$ 2,300	\$ 2,352	\$ 52

\* NOTE: Proposed monthly increase per bedroom is \$13.00.

## MONTHLY RENTAL RATE COMPARISON

### UNIVERSITY MANOR vs. PRIVATE APARTMENT COMPLEXES

The rental rates that follow are the proposed University Manor rental rates as compared to the current rates for private apartment complexes in the Hershey area. The average private rental rate has been adjusted to include utility expenses where none previously existed in the rental rate. This then provides an “apples-to-apples” rate comparison.

The average difference between the proposed University Manor rates and the current private apartment rates are:

#### DIFFERENCES BETWEEN UNIVERSITY MANOR AND PRIVATE APARTMENT RENTAL RATES

	<u>Average Private Rates</u>	<u>University Manor Proposed Rates</u>	<u>Difference</u>
1 Bedroom	\$1,068	\$ 985	\$ 83
2 Bedroom	\$1,220	\$1,172	\$ 48
3 Bedroom	\$1,488	\$1,320	\$168
4 Bedroom	\$2,910	\$2,352	\$558

All University Manor Apartments have air-conditioning, modern kitchen appliances, wall-to-wall carpeting, draperies/mini-blinds, and washers/dryers (only applies to UME). All utilities are included except Cable TV and long-distance telephone service. Additionally, high-speed wired and wireless Internet service is provided in all University Manor East and West apartments. A fire detection/suppression sprinkler system installation project in University Manor East was completed in July 2007. University Manor West apartment fire detection/suppression sprinkler system installation was completed in August 2011.

Proposed amendments to Sections 3.3 and 4.2 of the Penn State Health *Bylaws*.

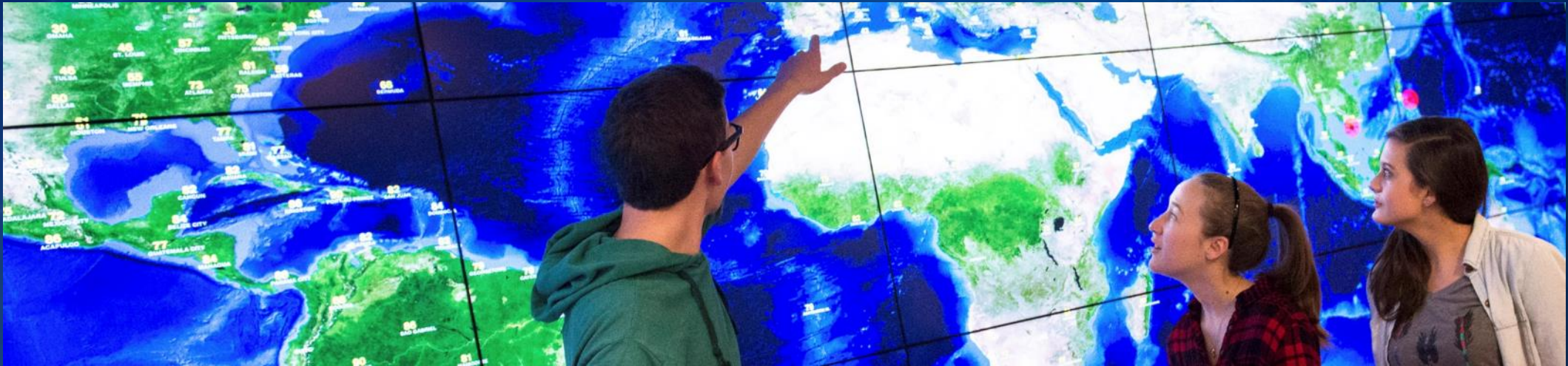
**3.3 Appointment of Directors.** Directors shall be elected by the Members.

As of the Affiliation Effective Date, PSU shall have the right to appoint eleven (11) Directors (each a "PSU Director"), ~~one of whom shall be the Dean of the PSU College of Medicine if that individual is not serving as the President/CEO of the Corporation.~~ ~~¶~~ Provided, no such PSU Director shall be an individual who is employed by or a member of the governing body of an integrated delivery and financing system other than the Corporation. The President/CEO of the Corporation shall serve on the Board *ex officio*, with vote. HH shall have the right to appoint three (3) Directors (each an "HH Director") as follows:

- (a) Effective as of the Affiliation Effective Date, HH may appoint one (1) voting Director and two (2) non-voting Directors.
- (b) Effective as of the second anniversary of the Affiliation Effective Date (and subject to the applicable terms of the Affiliation Agreement, which, among other things, permit acceleration of the right under certain circumstances), HH may appoint two (2) voting Directors and one (1) non-voting Director.
- (c) Effective as of the fourth anniversary of the Affiliation Effective Date (and subject to the applicable terms of the Affiliation Agreement) and each year thereafter, HH may appoint three (3) voting Directors.

Notwithstanding the foregoing, HH shall provide a list of and the credentials of its proposed HH Directors to PSU no less than thirty (30) days in advance of their proposed election and if, in good faith, PSU objects to any candidate, following written notification to HH, the Members will work to resolve any concern to ensure that any appointment is not disruptive or counterproductive to the Board.

**4.2 Executive Officers.** The Executive Officers of the Corporation shall be the President/CEO, the Chief Operating Officer ("COO"), the Secretary, the Treasurer, and such other executive officers as the Board may from time to time determine. An individual may hold more than one office in the Corporation, except that the individuals serving as President/CEO and as COO shall not be permitted to also serve as Secretary or Treasurer. ~~The individual serving as The Dean of the College of Medicine and Senior Vice President of Health Affairs of PSU shall serve ex officio as the President/CEO of the Corporation.~~ All other Executive Officers shall be elected by the Board.



*“No true teacher contents himself with merely attending his classes, and sitting down at ease after he has got them to work. He is studying constantly himself, making original investigations and publishing them to the world.”*

*-Evan Pugh, Penn State’s first president, setting forth the research vision in 1859*



# The Value of Research

- Drives progress in the Commonwealth, nation and the world.
  - Universities have become the country's innovation centers.
- Attracts leading faculty: innovators, knowledge creators.
- Provides experiences for students that enable career success.
- Crucial for standing among AAU, Big Ten and other world-class institutions.
- Standing is a major factor in student applications and faculty recruitment and retention.



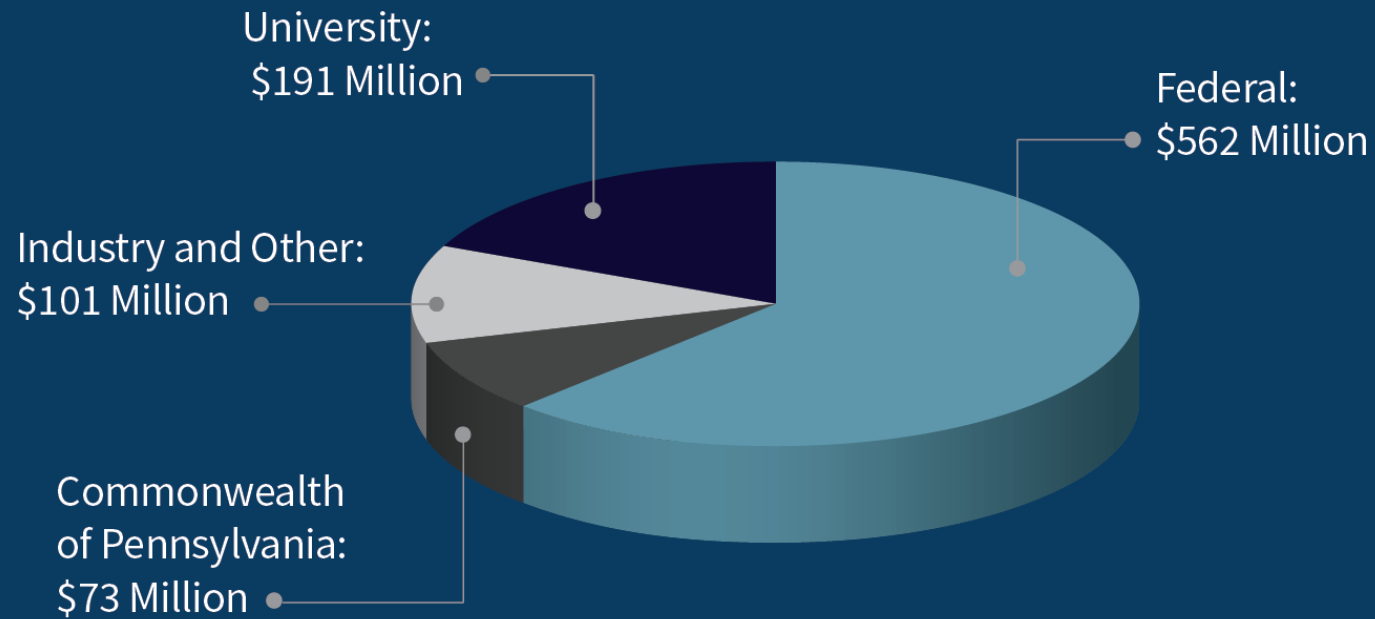
# Research Operation is Organized to Provide Maximize Value

The Office of the Vice President for Research works with the University Research Council, deans and chancellors to oversee:

- University-Wide Interdisciplinary Research Institutes
- Office of Sponsored Programs
- University Affiliated Research Center (UARC)
- Center for Research Commercialization
- Office for Research Protections



## Sources of Research Expenditures FY 2018

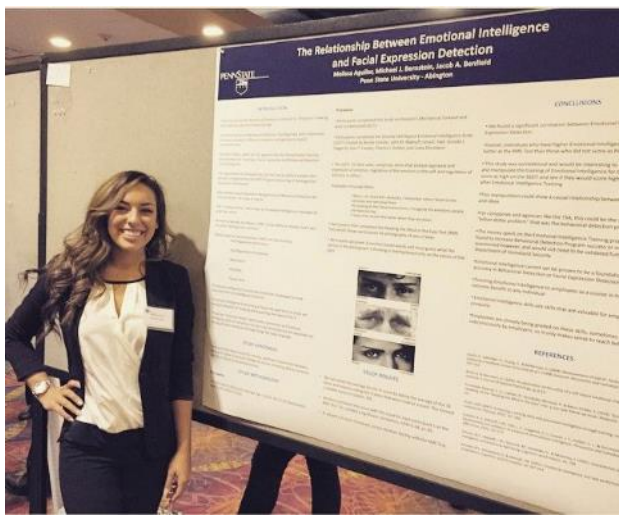


**Total: \$927 Million**





# University Impact





# Individuals Driving Research

- Gates Foundation - Matt Thomas, Entomology: For new mosquito controls to help eradicate malaria. Funding: \$10.2M over 6 years
- Pennsylvania Department of Agriculture – Bhushan Jayarao, Veterinary and Biomedical Sciences: Safeguarding animal and human health through the Pennsylvania Animal Diagnostic Laboratory System. Funding: \$14.3M over 5 years
- National Science Foundation - Klaus Keller, Earth and Environmental Systems Institute: To develop sound, economically efficient and ethically defensible climate-risk management strategies. Funding: \$11.9M over 5 years
- Patient-Centered Outcomes Research Institute - Chris Sciamanna, Medicine: To reduce bone fractures and injuries among older adults through exercise. Funding: \$13.4M over 6 years



# Faculty Who Shape Our Thinking

- Nina Jablonski, Evan Pugh University Professor of Anthropology
- Breaking the illusion of skin color through teaching, research and service.
- Her TED talk has been viewed 1.1M times, and was described as “the best and most fascinating account of everything that you might want to know about the packaging of our anatomy.”

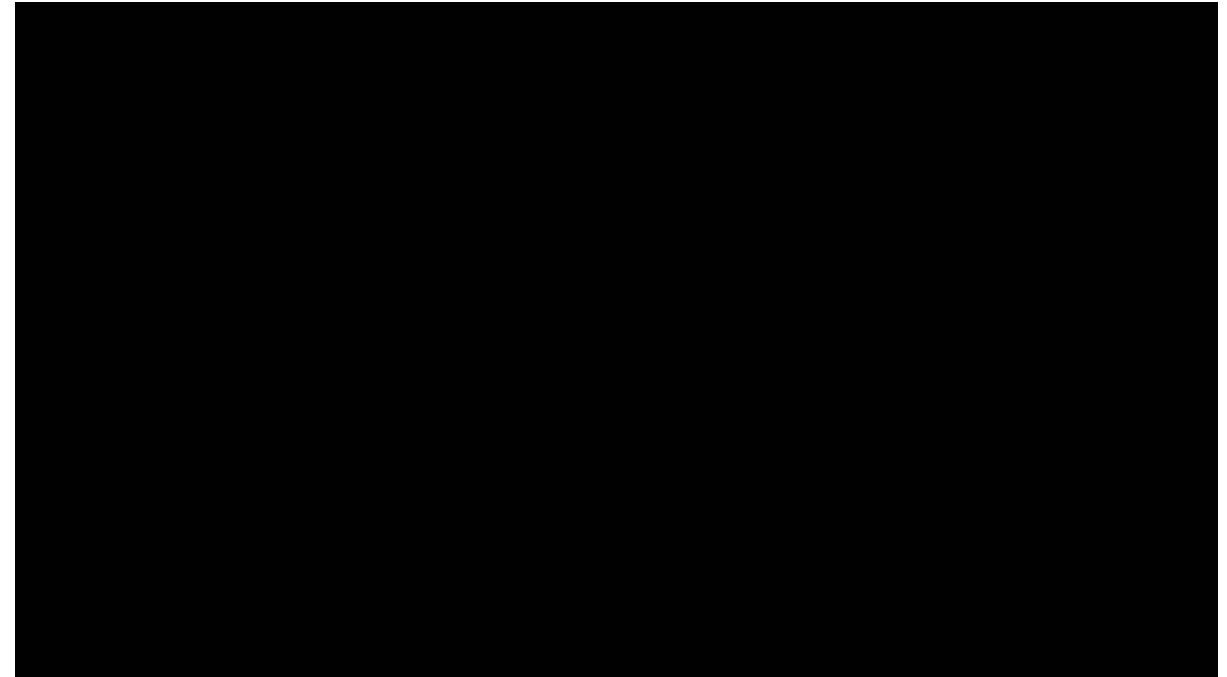


BTN LiveBIG 2018-19



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BTN LiveBIG 2018-19



# Interdisciplinary Research Institutes

- Cancer Institute
- Clinical and Translational Science Institute
- Huck Institutes of the Life Sciences
- Institute for CyberScience
- Institutes of Energy and the Environment
- Materials Research Institute
- Social Science Research Institute



# 2D Crystal Consortium

- National Science Foundation awarded \$17.8 million over 5 years to fund this national user facility as a state-of-the-art resource for other academic institutions and businesses.
- Focused on the development of 2D materials for applications in next generation electronics.
- Conducted 48 projects since 2016.
- One of only 2 NSF Materials Innovation Platforms in the U.S.



# Consortium to Combat Substance Abuse

- Brings together experts across Penn State to combat the opioid epidemic.
- Hiring 12 new faculty over 4 years.
- Provides seed-grant funding for new interdisciplinary teams to combat opioid and other substance abuse.
- First conference to be held April 29, 2019.
- Part of the Social Science Research Institute.



# Child Maltreatment Solutions Network

- Awarded a \$7.7M NIH grant over 5 years to support the goal of becoming a national resource for child maltreatment research and training.
- The network includes researchers and practitioners who:
  - produce new knowledge,
  - design and evaluate innovative approaches to the prevention, detection, and treatment of child maltreatment,
  - create interdisciplinary opportunities for students,
  - work in communities throughout PA and beyond.



# Applied Research Laboratory (ARL)

- A DoD designated University-Affiliated Research Center (UARC).
- Approved by the Navy to execute up to \$2.1 billion in research over 10 years aimed at improving U.S. national security.
- Commits 25% of fee to supporting undergraduate and graduate students: \$2M in FY18.
- Has supported national security efforts for over 70 years with basic and applied research.

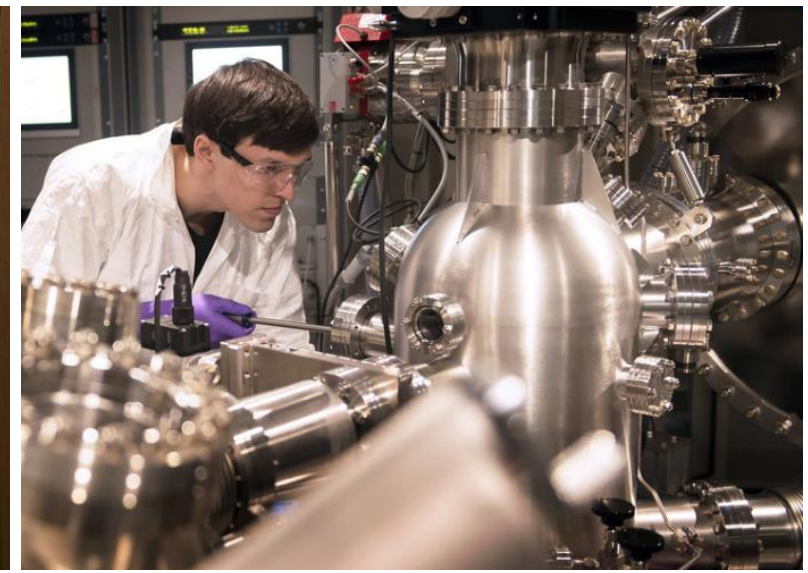
*“The Applied Research Laboratory at Penn State is a critical component of the Naval Research Enterprise ... developing critical science and technology in support of the security of our nation.”*

-U.S. Navy Rear Admiral David Goggins, Program Executive Officer, Submarines





# Impact on Students



# Funding Support

- 60.5% of individuals supported by federal and non-federal research funding in FY2016-17 were students.
- External grants and contracts provided \$24.7M in grad student support in FY2017-18.
- Corporate gifts support undergraduate projects, strengthen recruitment efforts, and make lasting industry connections.
- Interdisciplinary Institutes provide ongoing support:  
For example, Huck annually provides 7-8 fellowships, \$60K in Graduate Research Innovation awards, travel awards, customized graduate student professional development, and training grants.



# Training Grants

- Federal training grants provide substantial funding for grad students and postdocs. Funds are used for stipends, tuition, and training related expenses.
- Penn State currently has 10 NIH Training Grants totaling \$2.8M annually.
- Examples: National Cancer Institute has provided a training grant for cancer research for 20+ years; NIH sponsors the Medical Scientist Training Program (MD/PhD); NIH supports grad students studying gene regulation.



# Intersection of Teaching and Research

- Over the last 5 years, nearly 8,000 students completed an undergraduate research experience for academic credit; many more conduct research without earning credits.
- In 2015-16, 610 awards supported 974 undergraduate student research experiences.
- 156 Erickson Discovery Grants (\$3,500 each) were awarded in 2017-18 to students on 11 campuses.
- Faculty incorporate research-based new knowledge into curriculum.



# Research at the Commonwealth Campuses

- In 2017-18, there were 184 sections with 575 CC students participating in supervised research.
- In 2017-18, CC faculty received \$16.7M in sponsored awards.



PS Berks grad Kaylee Grindrod honored for Excellence in Sociology



# Research Doctorate Programs Rankings

- 43% of all Penn State ranked programs were in the top 10% of their respective fields.
- Top ranked programs span the university, including:  
Anthropology, Plant Biology, Kinesiology, Spanish, Astronomy and Astrophysics, Entomology, Sociology, Nutrition, Demography, English, Environmental Engineering, Meteorology, Political Science, Communication Arts & Sciences, Mathematics, and Philosophy.

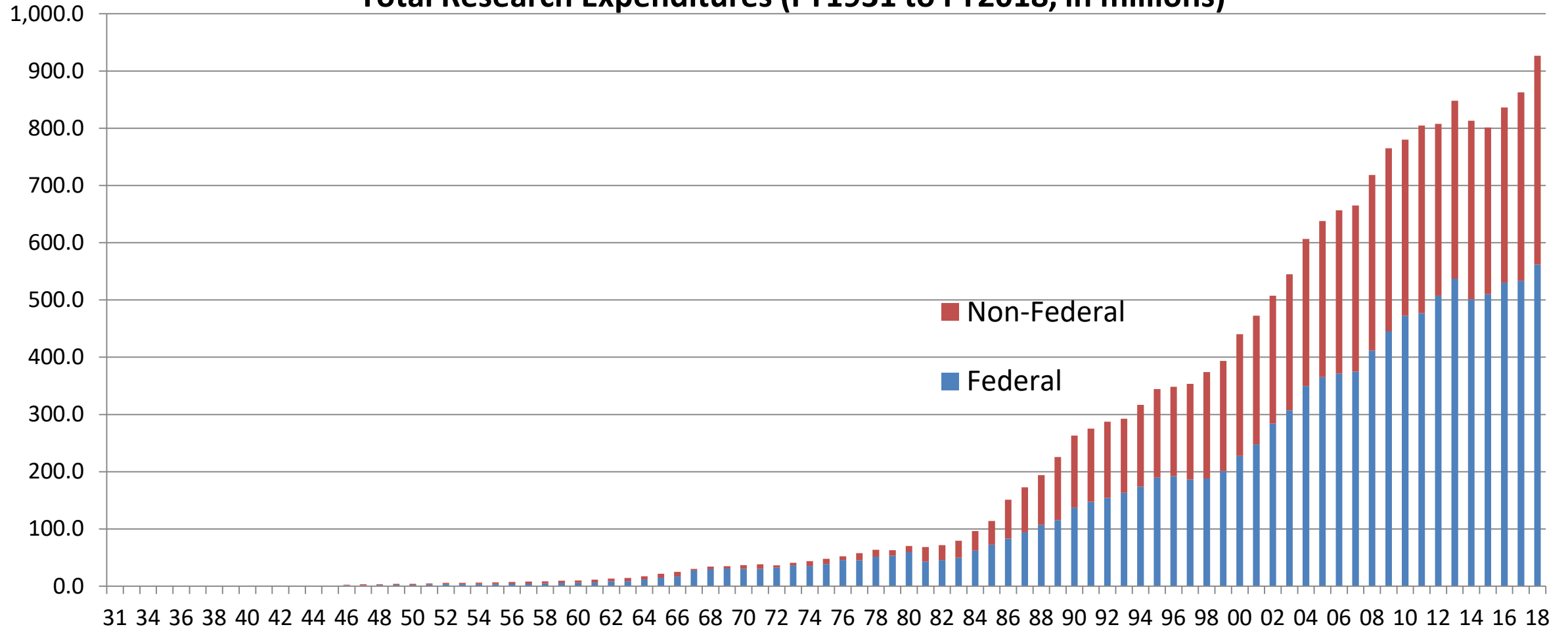
Source: 2010 National Research Council (NRC)





# Growth in Research at Penn State

Total Research Expenditures (FY1931 to FY2018, in millions)



# Signs of Research Excellence

- 8 years of research expenditures of \$800+ million.
- 15 disciplines rank in the top 10 of NSF Total Science and Engineering Research Expenditures; Penn State ranks 23<sup>rd</sup> overall.
- One of only 2 institutions in the U.S. accorded land grant, sea grant, sun grant, and space grant status.
- University Libraries rank 10<sup>th</sup> among North American research libraries.
- No. 7 among top producers of U.S. Fulbright scholars and students.
- 110+ faculty members in the National Academies: Engineering, Science, and Medicine; American Academy of Arts and Sciences; and American Association for the Advancement of Science.



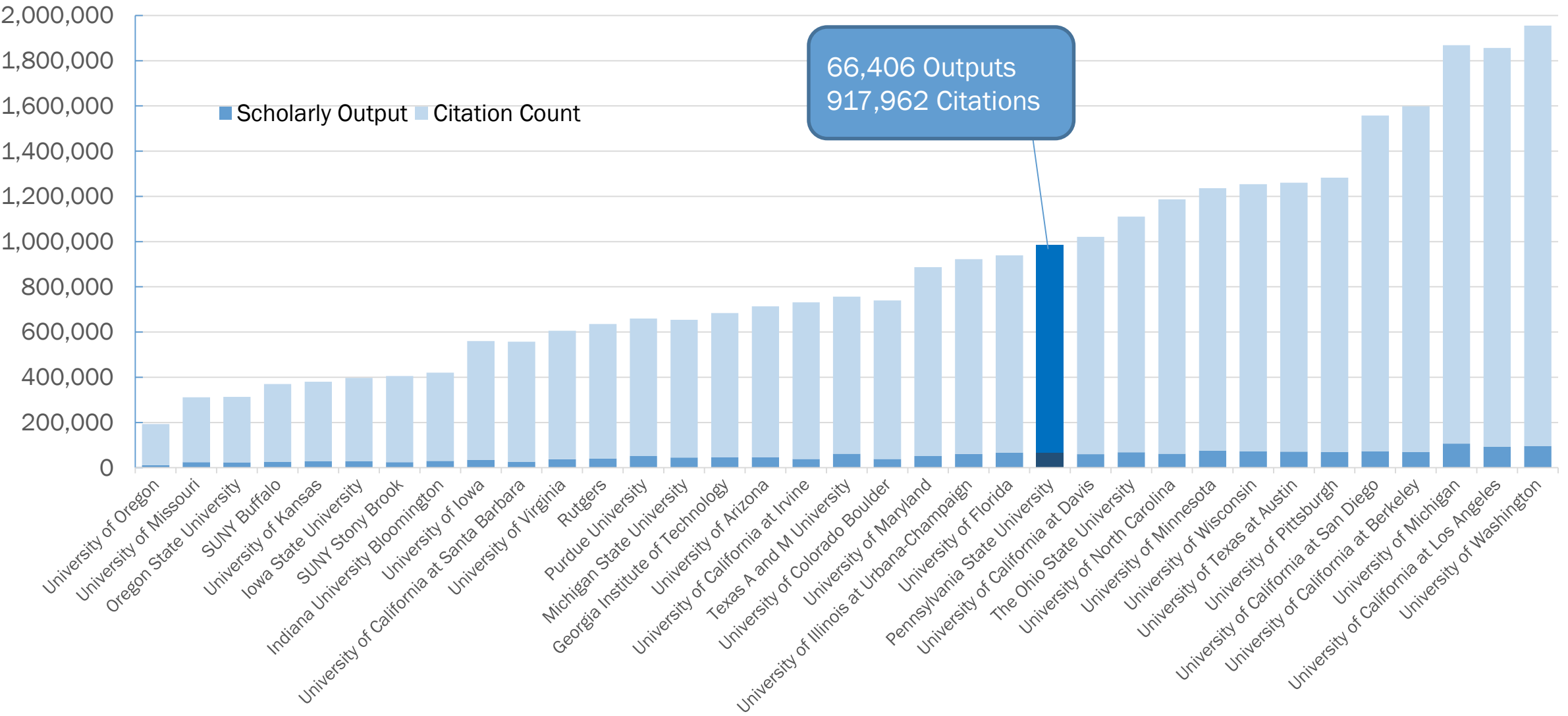


# Association of American Universities

- Member of AAU since 1958
  - AAU represents 62 leading research universities distinguished by the breadth and quality of their research and graduate education programs.
  - Membership is very selective, drawing from 2,300+ colleges and universities in the US and Canada.
  - AAU universities award nearly half of all U.S. doctoral degrees; 55% of those are in science and engineering.



# AAU Public Universities - Scholarly Output and Citations 2011-2018



# Faculty Productivity (FY 18)

- \$2.79B in research proposals submitted; \$730M awarded
- 4,799 research proposals submitted
- 1,885 new awards and competitive renewals
- 1,994 unique investigators received awards
- 967 unique sponsors provided awards

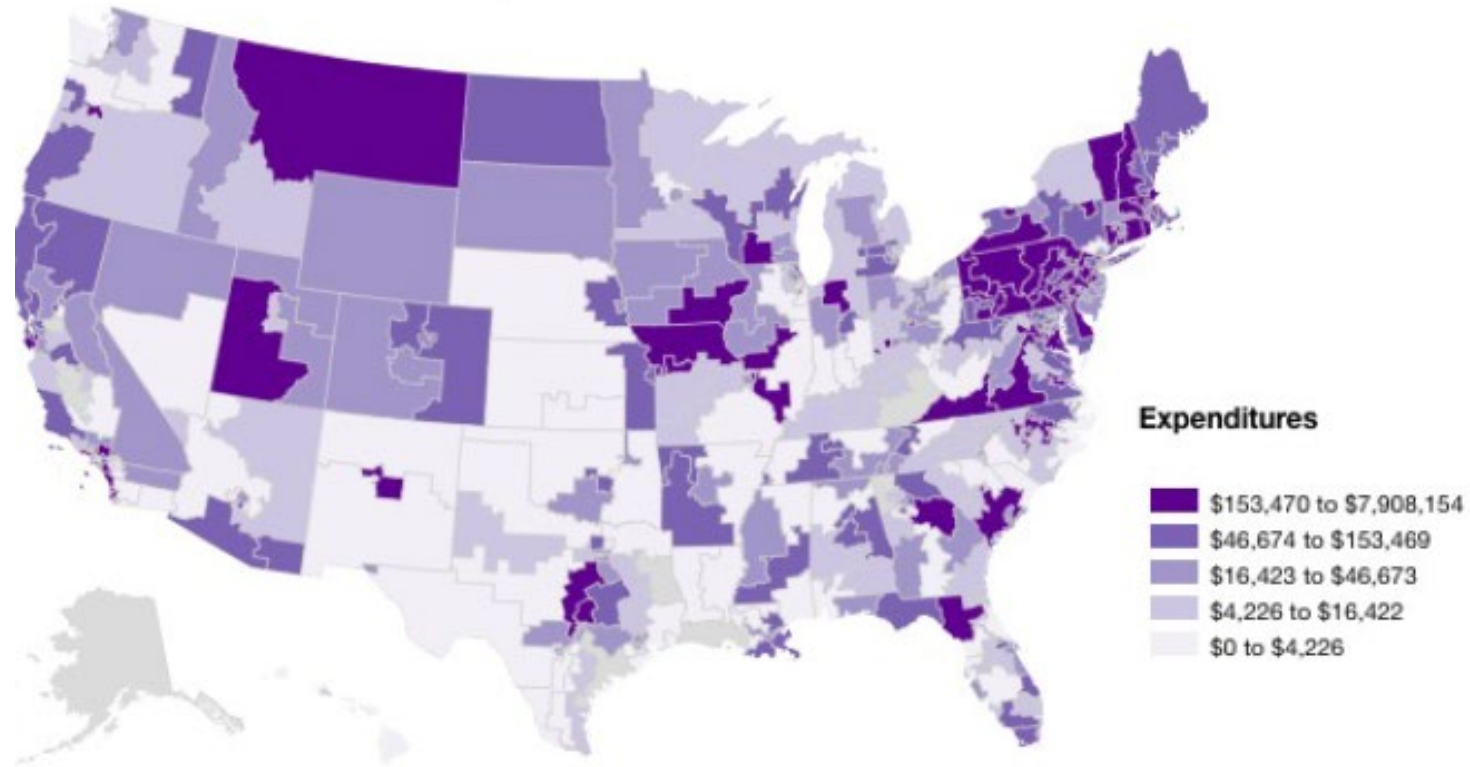


# Economic Development Impact



# Research-Related Expenditures (FY2017)

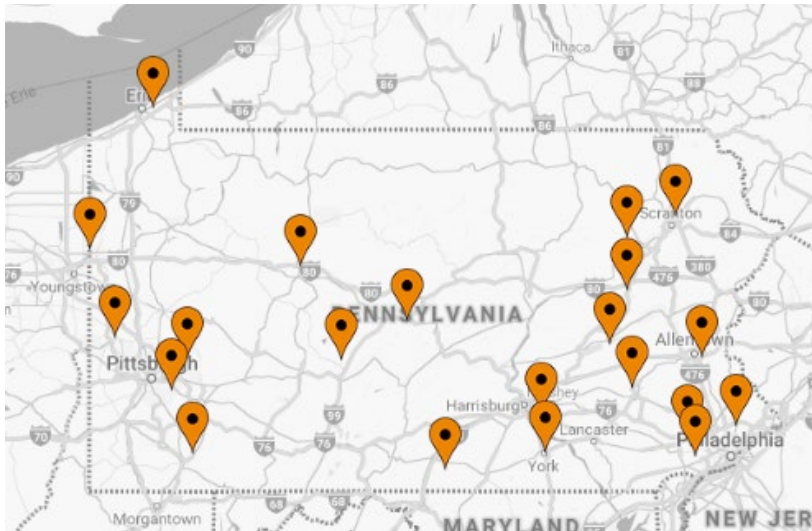
- \$84M in United States
- \$21M in Pennsylvania
- \$8M in Centre County





# Invent Penn State

**21 LaunchBoxes** across the state;  
6 opened in 2016; 5 in 2017;  
4 in 2018; 6 in progress.



310-38

Appendix III

Activity	FY '16-'18
Entrepreneurs Assisted	1,792
Students Engaged	4,529
Faculty/Staff Engaged	519
New Product Development Projects	170
New Startups Program Graduates	154
New Companies in PA Communities	45
Jobs Created	107.5
Internships Created	317
In-Kind Support Est. Value	\$781,306
External Matched/Leverage Funds	\$4,523,456

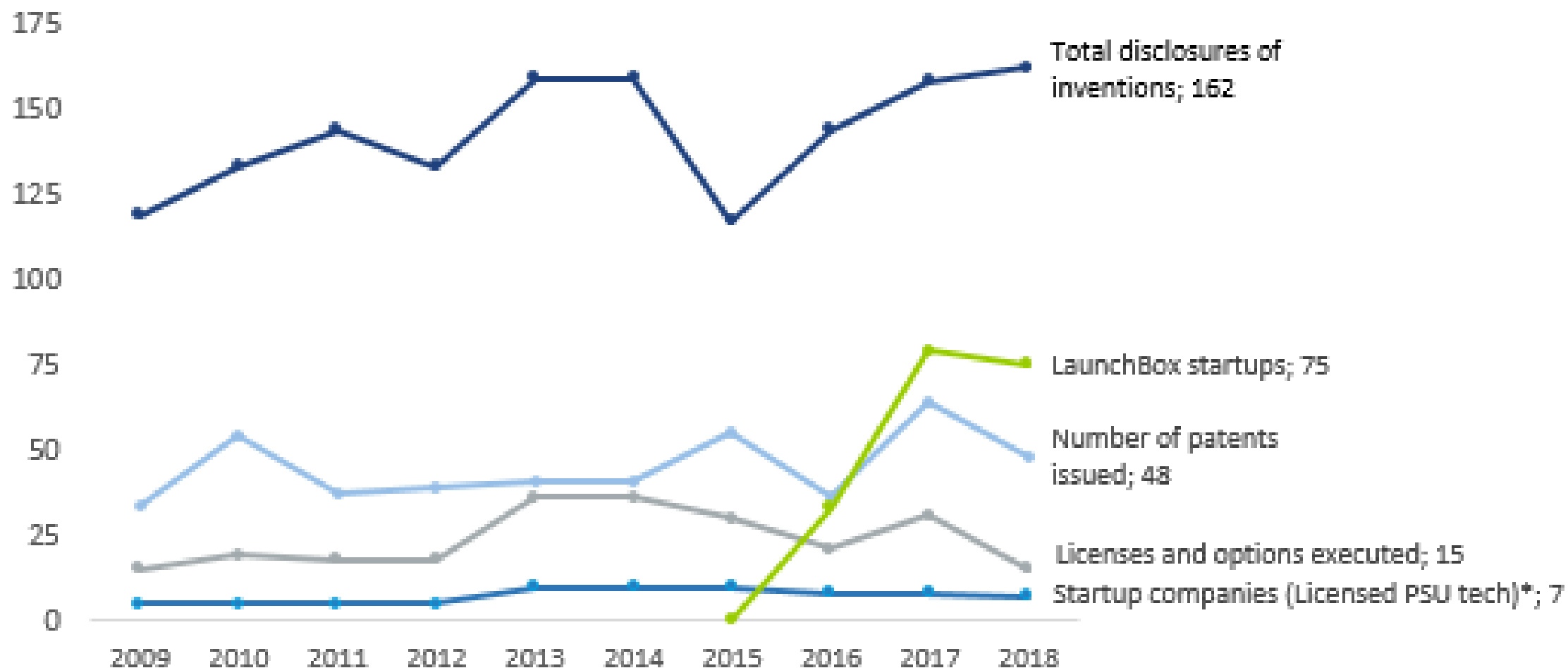


# Tech Transfer

- Penn State attracts research partners from the private sector with one of the nation's friendliest IP policies for industry sponsored research.



# Number of Disclosures, Patents, Licenses and Startups



\* Number of startup companies also included in licenses and options





# Top Corporate Collaborators

- 340 corporate partners from 2013-18; 1,711 co-authored publications.
- On average, 500 companies sponsor projects every year with approximately 1/4 of those being PA companies.



Microsoft®  
**Research Asia**



**Raytheon**



Microsoft



**MERCK**



PennState

# Global Research Collaborations (past 5 years)



Source: Pure.psu.edu



**PennState**



# Strategic Impact



# Impact the World Campaign Imperative

This has been the best performing campaign imperative, reaching 81% of the goal at the 50% mark in the campaign with the focus on:

- Food, Water and Energy Security
- Human Health
- Economic Development and Job Creation



## A GREATER PENN STATE

Time Elapsed: 50% as of December 31, 2018

**Open Doors** – Goal: \$500M

Current Progress: \$295.8M (59%)



**Create Transformative Experiences** – Goal: \$225M

Current Progress: \$127.5M (57%)



**Impact the World** – Goal: \$475M

Current Progress: \$384.4M (81%)



**TOTAL FUNDRAISING PROGRESS** – Goal: \$1.6B

Current Progress: \$931.4M (58%)



# Summary: The Role of Research in Penn State's Land-grant Mission

Innovative research and knowledge creation:

- Serves society
- Drives student opportunities and success
- Promotes economic development and progress
- Attracts leading faculty and outstanding students
- Enhances the University's standing as a world-class institution



# Discussion

1. Research clearly serves our mission. Are there additional ways we can leverage our teaching and research enterprise?
2. How do we best continue to advance the success of our unique institute model?

