

**Notice of Meeting  
UNIVERSITY OF HAWAI'I**

**BOARD OF REGENTS COMMITTEE ON RESEARCH AND INNOVATION**

Members: Regents Sullivan (Chair), Bal (Vice-Chair), Acopan,  
Westerman, Wilson, and Yuen

**Date:** Tuesday, February 19, 2019  
**Time:** 8:45 a.m.  
**Place:** University of Hawai'i at Mānoa  
Campus Center  
Executive Dining Room  
2465 Campus Road  
Honolulu, Hawai'i 96822

**AGENDA**

**I. Call Meeting to Order**

- II. Public Comment Period for Agenda Items:** All written testimony on agenda items received after posting of this agenda and up to 24 hours in advance of the meeting will be distributed to the board. Late testimony on agenda items will be distributed to the board within 24 hours of receipt. Written testimony may be submitted via US mail, email at [bor@hawaii.edu](mailto:bor@hawaii.edu), or facsimile at 956-5156. Individuals submitting written testimony are not automatically signed up for oral testimony. Registration for oral testimony on agenda items will be provided at the meeting location 15 minutes prior to the meeting and closed once the meeting begins. Oral testimony is limited to three (3) minutes. All written testimony submitted are public documents. Therefore, any testimony that is submitted verbally or in writing, electronically or in person, for use in the public meeting process is public information and will be posted on the board's website.

**III. Agenda Items**

A. For Information and Discussion

1. Fiscal Year 2019 2<sup>nd</sup> Quarter Extramural Awards Update
2. University of Hawai'i at Hilo Research and Innovation Long-Range Plan Update
3. UHealthy Hawai'i Initiative: Strategic Growth Area
4. Strategic Research and Training Revolving Fund Investments

**IV. Adjournment**

# IV.A. For Information and Discussion

**MATERIALS**



UNIVERSITY  
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SYSTEM

UNIVERSITY OF HAWAII  
BOARD OF REGENTS

Office of the Vice President for Research and Innovation

UH DTS #19356

19 FEB 12 P3:01  
RECEIVED

'19 FEB 12 P3:00

February 11, 2019

**MEMORANDUM**

UNIVERSITY OF HAWAII  
PRESIDENT'S OFFICE

**TO:** Jan Sullivan, Chairperson  
BOR Committee on Research and Innovation

**VIA:** David Lassner  
President 

**FROM:** Vassilis L. Syrmos   
Vice President for Research and Innovation

**SUBJECT: BOR COMMITTEE ON RESEARCH AND INNOVATION AGENDA MATERIALS FOR FEBRUARY 2019 MEETING**

Please find attached the following materials that will be discussed at the February 19, 2019 BOR Committee on Research and Innovation meeting:

- A. For Information and Discussion:
1. Fiscal Year 2019 2nd Quarter Extramural Awards Update (*\*VPRI presentation*)
    - a. FY19 Q2 Extramural Awards Analysis Report
    - b. FY19 Q2 Research and Innovation Metrics Summary
    - c. FY19 Monthly Report of Extramural Awards (as of December 31, 2018)
  2. University of Hawai'i at Hilo Research and Innovation Long-Range Plan Update (*\*UH Hilo presentation: Kenneth Hon*)
  3. UHealthy Hawai'i Initiative: Strategic Growth Area (*\*UH System, OVPRI presentation: Aimee Grace*)
  4. Strategic Research and Training Revolving Fund Investments (*\*VPRI presentation*)

Attachments

# FY 2019 Quarter 2 Report on Extramural Awards

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BOR Committee on Research and Innovation  
February 19, 2019



UNIVERSITY  
of HAWAII<sup>®</sup>  
SYSTEM

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# Overview

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- FY19 Q2 Recap
- Significant Awards by Campus
- Award Amounts by Location
- Actuals vs. Forecast



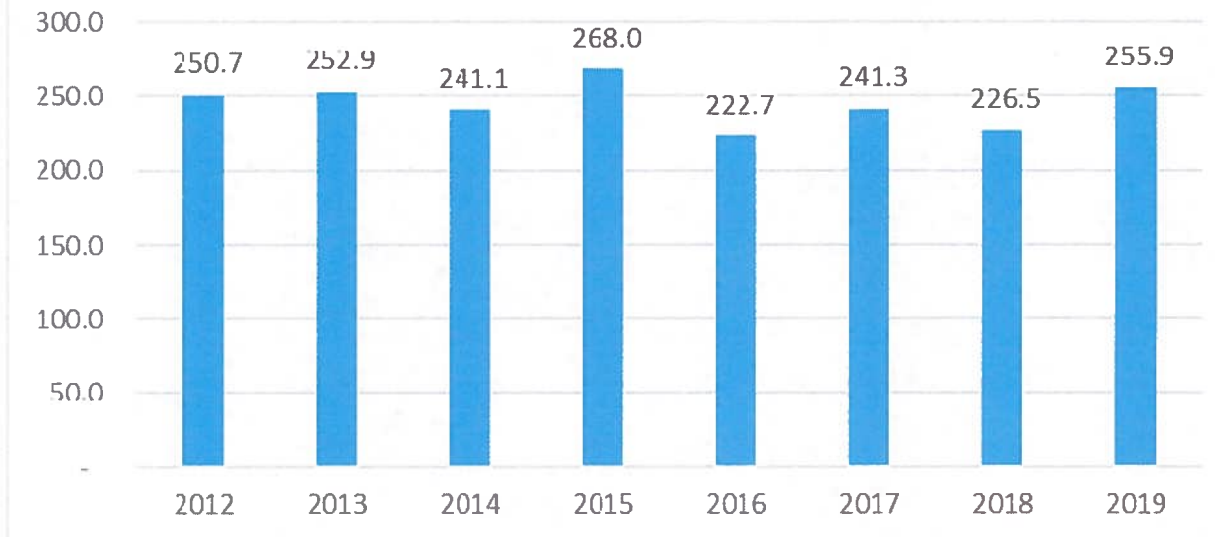
## FY19 Q2 Recap

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- FY19 Q2 total is \$255.9 million, which is 13.0% more than at the same time last fiscal year (\$226.5 million).
- Performance is up at mid-point, and there is a possibility that year-end results will be closer to \$400 million.



Extramural Awards as of 12/31  
(\$ millions)



	2012	2013	2014	2015	2016	2017	2018	2019
7/1 - 12/31	250.7	253.0	241.2	268.1	222.7	241.3	226.5	255.9
1/1 - 6/30	185.2	156.8	151.1	157.6	168.6	145.7	159.8	--
<b>FY total</b>	<b>435.9</b>	<b>409.8</b>	<b>392.3</b>	<b>425.7</b>	<b>391.3</b>	<b>387.0</b>	<b>386.3</b>	<b>255.9</b>



# Significant Awards by Campus

Campus	Sponsor Type	Sponsor	Project Title	Amount
Mānoa	Federal	Department of Defense	Oahu and Makua Implementation of Endangered Species Management, US Army Garrison, Hawaii	5,222,000
Hilo	Federal	Department of Education	UH Hilo and HawCC Cooperative Arrangement Development Grant	848,825
West O'ahu	Federal	Department of Education	UH West Oahu PIKO: Po o, Ike, Kino, and Ohana Project	1,794,142
Hawai'i CC	Business and Other	Kamehameha Schools	UH Hawai'i Community College's UH West Hawai'i Kulike	175,000
Honolulu CC	Federal	Department of Education	Honolulu Community College TRIO Student Support Services	517,252
Kapi'olani CC	Federal	Department of Education	Strengthening Kapiolani's Campus and Culture for Student Success: Kauhale Ke Kuleana, the Responsibility of the Whole Village	1,769,825
Kaua'i CC	Federal	Department of Education	Crossing Cultures	677,868
Leeward CC	Federal	Department of Education	Pa'a Ke Kahua: Strengthening Our Foundation	1,793,054
Maui College	State and Local	Department of Human Services	Hawaii Child Welfare Continuous Quality Improvement Project	2,013,888
Windward CC	Federal	Department of Education	Hanaiaulu: Feed and Grow, Nurturing Student Parents and STEM at Windward Community College through Renovation	1,719,876
UH System	Federal	Department of Defense	Extended Research Support to the U.S. Navy Wave Energy Test Site (WETS)	5,820,895





# Amounts by Location (\$ millions)

Campus	2016	2017	2018	2019	2019-18 Change
Mānoa	173.6	172.0	166.5	187.3	12.5%
Hilo	7.8	7.3	8.3	10.7	28.3%
West O'ahu	5.2	5.4	5.7	5.2	-8.9%
Hawai'i CC	0.1	0.1	0.5	0.3	-24.5%
Honolulu CC	2.4	2.5	1.3	1.4	14.2%
Kapi'olani CC	3.4	4.8	4.2	3.2	-24.7%
Kaua'i CC	1.0	2.0	0.9	0.9	-0.7%
Leeward CC	3.2	3.8	3.0	2.6	-12.1%
Maui College	8.0	6.4	9.8	10.1	2.8%
Windward CC	4.6	7.3	6.4	6.7	3.9%
UH System	13.4	29.7	19.9	27.5	38.1%
<b>TOTAL</b>	<b>222.7</b>	<b>241.3</b>	<b>226.5</b>	<b>255.9</b>	<b>13.0%</b>



# Major Changes by Location

- UH Mānoa increase attributed to seven awards over \$1 million as well as the timing of a \$3.7 million award (FY19 Q2 vs. FY18 Q3):

College/Unit	Sponsor Type	Sponsor	Amount
Natural Sciences	Federal	Dept. of Defense	\$ 5,222,000
Education	State	Dept. of Education - HI	3,285,572
SOEST	Federal	National Institutes of Health	2,366,501
Social Sciences	State	Office of the Governor	1,600,000
IfA	Federal	National Science Foundation	1,500,000
SOEST	Federal	National Science Foundation	1,070,925
Hawaiian Knowledge	Federal	Dept. of Education	1,041,375
<b>TOTAL</b>			<b>\$16,086,373</b>

# Major Changes by Location

- UH Hilo increase attributed to five awards over \$200,000

College/Unit	Sponsor Type	Sponsor	Amount
Arts & Sciences	Federal	National Science Foundation	\$ 755,000
Arts & Sciences	Federal	Dept. of Defense	449,730
VC for Research	Federal	Dept. of Interior	427,190
Ag, Forest & Nat Res	Federal	Dept. of Commerce	272,622
Arts & Sciences	Federal	Dept. of Interior	212,861
<b>TOTAL</b>			<b>\$2,117,403</b>



# Major Changes by Location

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- UH System increase attributed to:
  - A \$5.8 million Department of Defense award received through the Applied Research Lab; and
  - A new \$4.1 million Department of Education award received through the Hawai'i P20 program.

# Actuals vs. Forecast (\$ millions)

- Overall results as of 12/31/18 were about \$26.6 million or 11.6% more than forecast.

FY 2019	Forecast	Actual	Variance
7/1 – 12/31	229.3	255.9	11.6%
1/1 – 6/30	157.4	—	TBD
Total	386.7	255.9	



## FY 2019 Quarter 2 Report on Extramural Awards

### I. Summary

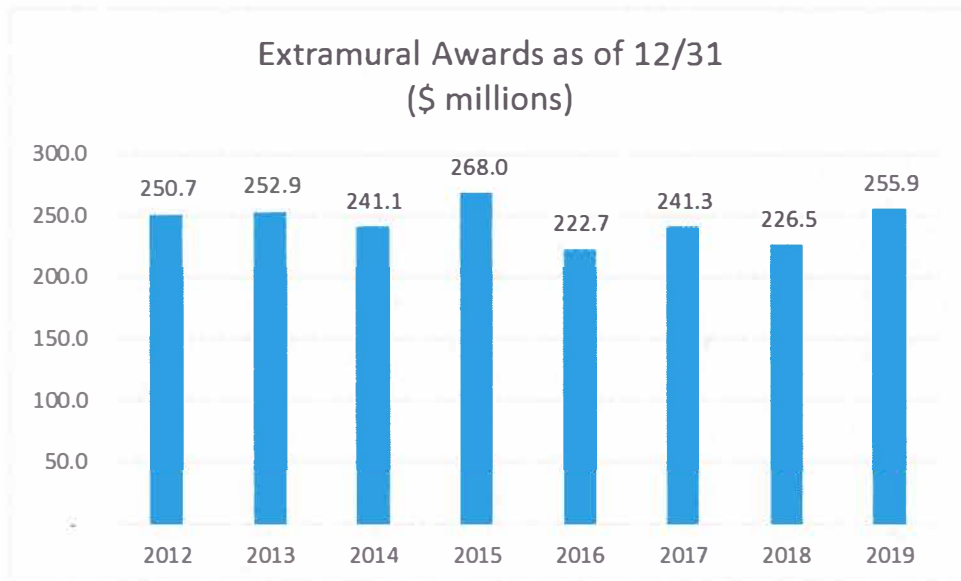
Extramural awards for the second quarter of FY 2019 totaled \$255.9 million, which is \$29.4 million, or 13% more than at the same time in FY 2018. Performance is up at the mid-point and there is a possibility that year-end results will be closer to \$400 million.

### ii. Quarterly Performance Metrics

Extramural awards for FY19 Q2 were around \$29.4 million, or 13.0% more than at the same time in FY 2018. Based on past performance, there is a possibility that FY 19 year-end results will be close to \$400 million.

**Extramural Awards as of 12/31/19**  
\$ millions

	2012	2013	2014	2015	2016	2017	2018	2019
7/1 - 12/31	250.7	253.0	241.2	268.1	222.7	241.3	226.5	255.9
1/1 – 6/30	185.2	156.8	151.1	157.6	168.6	145.7	159.8	--
<b>FY total</b>	<b>435.9</b>	<b>409.8</b>	<b>392.3</b>	<b>425.7</b>	<b>391.3</b>	<b>387.0</b>	<b>386.3</b>	<b>255.9</b>



### III. Significant Awards by Campus

The following table reflects the largest awards received as of 12/31/2018 by campus. As expected, the majority of awards are federally funded and were received during the first three months of FY 19, which is the last quarter of the federal fiscal year. The \$5.2 million award in UH Mānoa is the only new large award over \$5 million this fiscal year to date.

Campus	Sponsor Type	Sponsor	Project Title	Amount
Mānoa	Federal	Department of Defense	Oahu and Makua Implementation of Endangered Species Management, US Army Garrison, Hawaii	5,222,000
Hilo	Federal	Department of Education	UH Hilo and HawCC Cooperative Arrangement Development Grant	848,825
West O'ahu	Federal	Department of Education	UH West Oahu PIKO: Po o, Ike, Kino, and Ohana Project	1,794,142
Hawai'i CC	Business and Other	Kamehameha Schools	UH Hawai'i Community College's UH West Hawai'i Kulike	175,000
Honolulu CC	Federal	Department of Education	Honolulu Community College TRIO Student Support Services	517,252
Kapi'olani CC	Federal	Department of Education	Strengthening Kapiolani's Campus and Culture for Student Success: Kauhale Ke Kuleana, the Responsibility of the Whole Village	1,769,825
Kaua'i CC	Federal	Department of Education	Crossing Cultures	677,868
Leeward CC	Federal	Department of Education	Pa'a Ke Kahua: Strengthening Our Foundation	1,793,054
Maui College	State and Local	Department of Human Services	Hawaii Child Welfare Continuous Quality Improvement Project	2,013,888
Windward CC	Federal	Department of Education	Hanaiaulu: Feed and Grow, Nurturing Student Parents and STEM at Windward Community College through Renovation	1,719,876
UH System <sup>1</sup>	Federal	Department of Defense	Extended Research Support to the U.S. Navy Wave Energy Test Site (WETS)	5,820,895

<sup>1</sup> UH System represents units under Vice Presidents that receive extramural funding. Examples include the P20 and Gear Up grants under the VP for Academic Affairs; Maui High Performance Computing Center and Pacific Disaster Center contracts under the VP for Information Technology; Applied Research Laboratory task orders under the VP for Research and Innovation; and the Pacific Business Center Program under the VP for Community Colleges.



#### IV. Award Trends by Campus

Award totals for the second quarter were 13.0% more than the same time in FY 2018.

#### Award Amounts by Location as of 12/31 \$ millions

Campus	2016	2017	2018	2019	2019-18 Change <sup>2</sup>
Mānoa	173.6	172.0	166.5	187.3	12.5%
Hilo	7.8	7.3	8.3	10.7	28.3%
West O'ahu	5.2	5.4	5.7	5.2	-8.9%
Hawai'i CC	0.1	0.1	0.5	0.3	-24.5%
Honolulu CC	2.4	2.5	1.3	1.4	14.2%
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Kaua'i CC	1.0	2.0	0.9	0.9	-0.7%
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Windward CC	4.6	7.3	6.4	6.7	3.9%
UH System	13.4	29.7	19.9	27.5	38.1%
TOTAL	222.7	241.3	226.5	255.9	13.0%

Major dollar increases and decreases are attributed as follows:

- UH Mānoa increase is attributed to seven awards over \$1 million (see table below) as well as the timing of a \$3.7 million award that was received in the first six months of FY 19 as opposed to the last six months of the fiscal year in FY 18.

College/Unit	Sponsor Type	Sponsor	Amount
Natural Sciences	Federal	Dept. of Defense	\$ 5,222,000
Education	State	Dept. of Education - HI	3,285,572
SOEST	Federal	National Institutes of Health	2,366,501
Social Sciences	State	Office of the Governor	1,600,000
IfA	Federal	National Science Foundation	1,500,000
SOEST	Federal	National Science Foundation	1,070,925
Hawaiian Knowledge	Federal	Dept. of Education	1,041,375
<b>TOTAL</b>			<b>\$16,086,373</b>

- UH Hilo increase is attributed to five awards over \$200,000.

College/Unit	Sponsor Type	Sponsor	Amount
Arts & Sciences	Federal	National Science Foundation	\$ 755,000
Arts & Sciences	Federal	Dept. of Defense	449,730
VC for Research	Federal	Dept. of Interior	427,190
Ag, Forest & Nat Res	Federal	Dept. of Commerce	272,622
Arts & Sciences	Federal	Dept. of Interior	212,861
<b>TOTAL</b>			<b>\$2,117,403</b>

<sup>2</sup> The percent change over the prior year is calculated using the actual figures not the rounded figures.



- UH System increase is attributed to the \$5.8 million Department of Defense award received through the Applied Research Lab and a new \$4.1 million Department of Education award received through the Hawai'i P20 program.

#### V. Actuals vs. Forecast

The overall results for the second quarter of FY 2019 were about \$26.6 million, or 11.6% more than forecasted.

FY 2019	Forecast	Actual	Variance
7/1 – 12/31	229.3	255.9	11.6%
1/1 – 6/30	157.4	—	TBD
Total	386.7	255.9	

## Extramural Sponsor Awards Quarterly Summary

<b><u>Program Type</u></b>	<b>Oct 1 - Dec 31 2018</b>		<b>Oct 1 - Dec 31 2017</b>	
	<b><u>Count</u></b>	<b><u>Amount</u></b>	<b><u>Count</u></b>	<b><u>Amount</u></b>
Research	233	\$ 34,541,833	196	\$ 36,479,348
Non-Research	183	\$ 41,649,816	161	\$ 27,560,011
<b><u>Total</u></b>	<b><u>416</u></b>	<b><u>\$ 76,191,649</u></b>	<b><u>357</u></b>	<b><u>\$ 64,039,359</u></b>

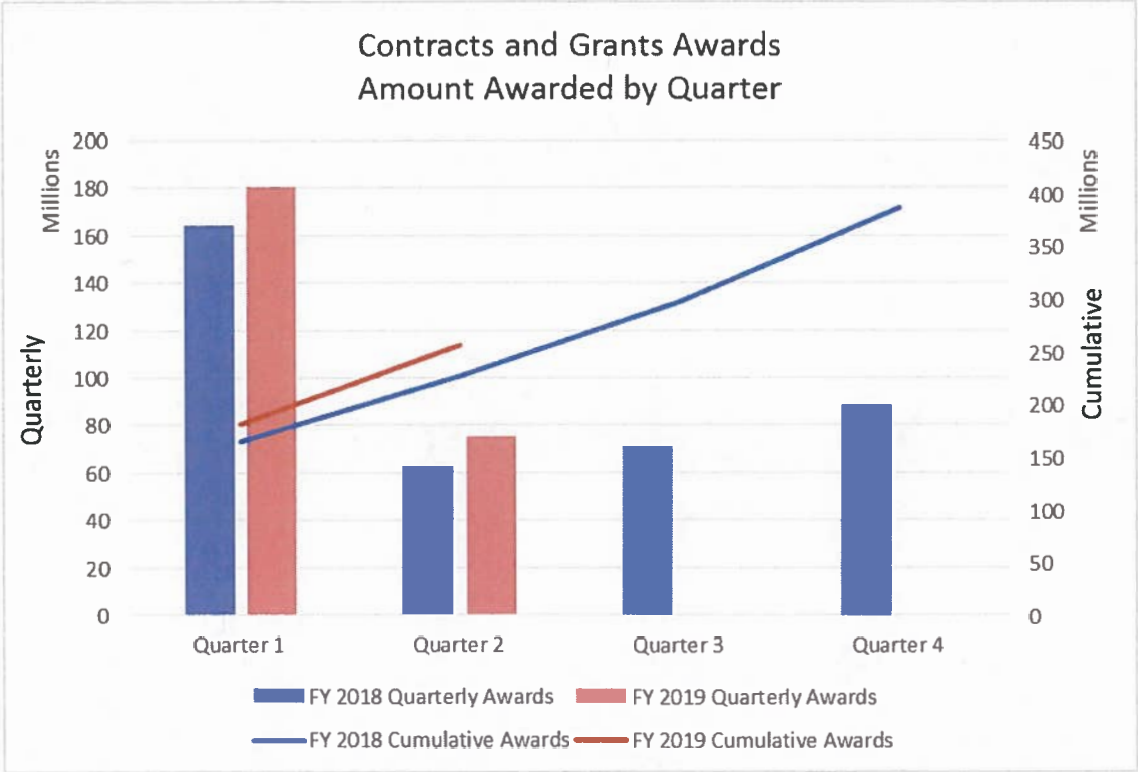
Note: The detailed award listing is available at:

<http://www.ors.hawaii.edu/index.php/bor-reports>

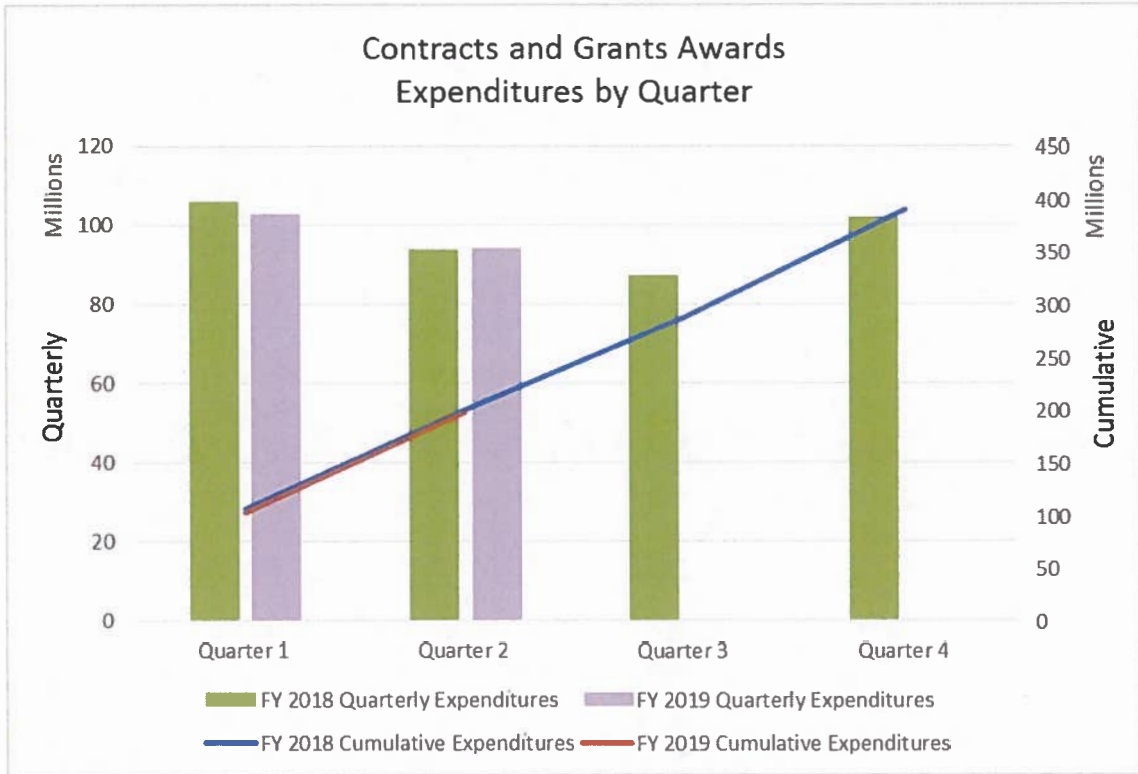
The FY 2018 year-to-date total was: \$226,515,857

The unofficial FY 2019 year-to-date total is: 1,098 awards totaling  
\$255,864,191

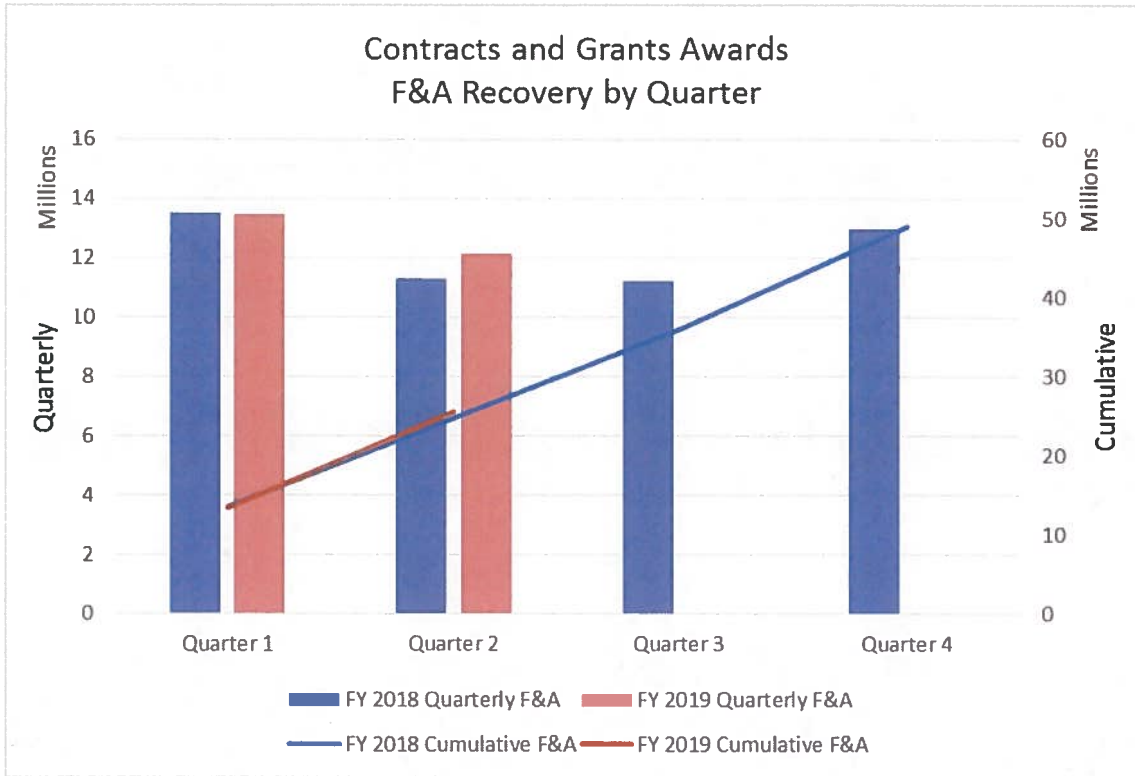
Contracts and Grants Awards  
As of Quarter Two – FY 2019



Contracts and Grants Expenditures  
As of Quarter Two – FY 2019



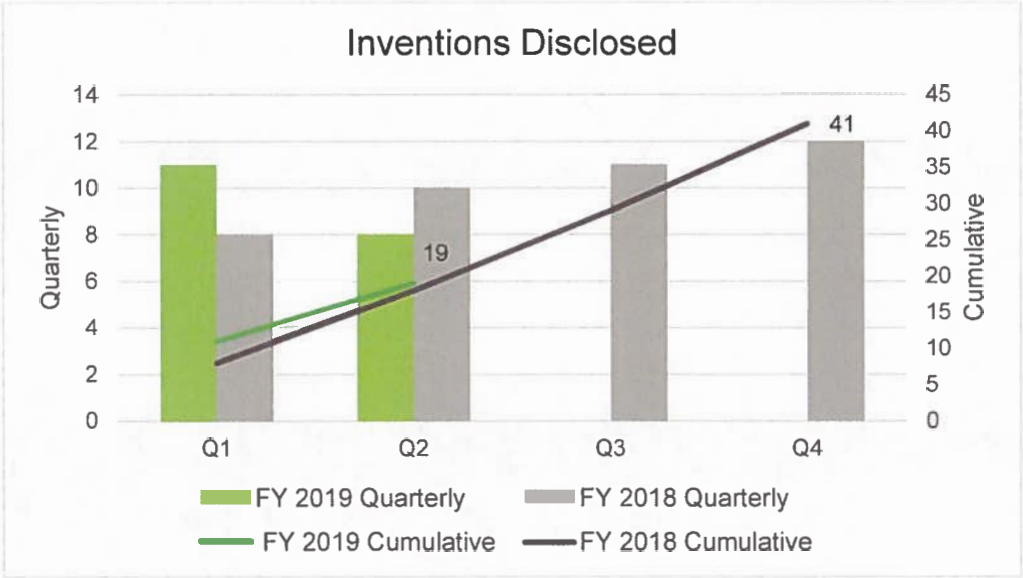
Contracts and Grants F&A Recovery  
As of Quarter Two – FY 2019



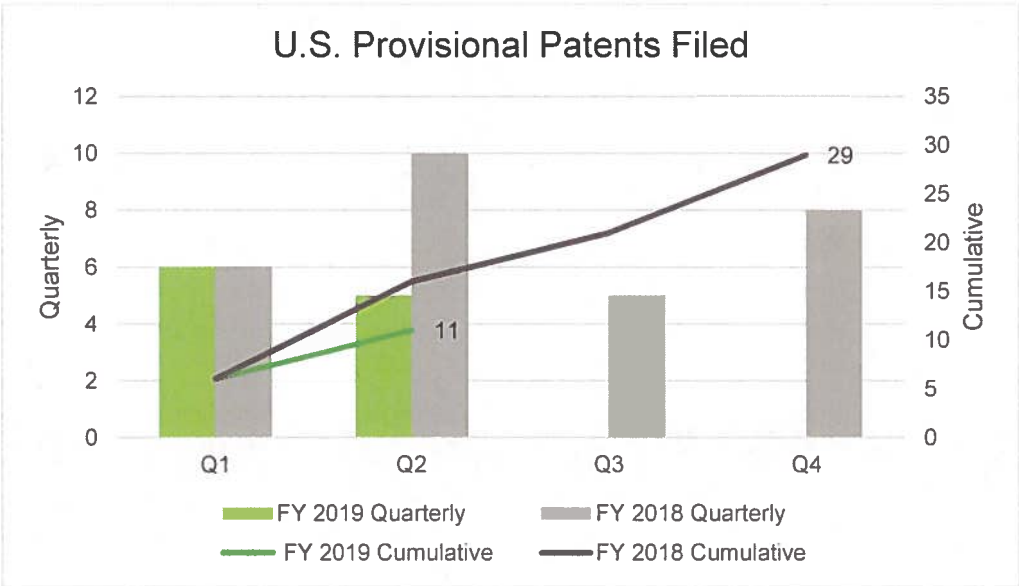
**OTT Research & Innovation Metrics  
FY 2019 – Second Quarter Summary**

<u>Metric</u>	FY 2019 <u>10/1/18 – 12/31/18</u>	FY 2018 <u>10/1/17 – 12/31/17</u>
Invention Disclosures	8	10
U.S. Provisional Patents Filed	5	10
U.S. Non-Provisional Patents Filed	7	2
U.S. Non-Provisional Patents Issued	2	0
License & Option Agreements Executed	3	2
Active License & Option Agreements	121	109
Royalty Revenue	\$60,175.47	\$61,965.89
Start-Ups	0	0

**Invention Disclosures  
As of Quarter Two – FY 2019**

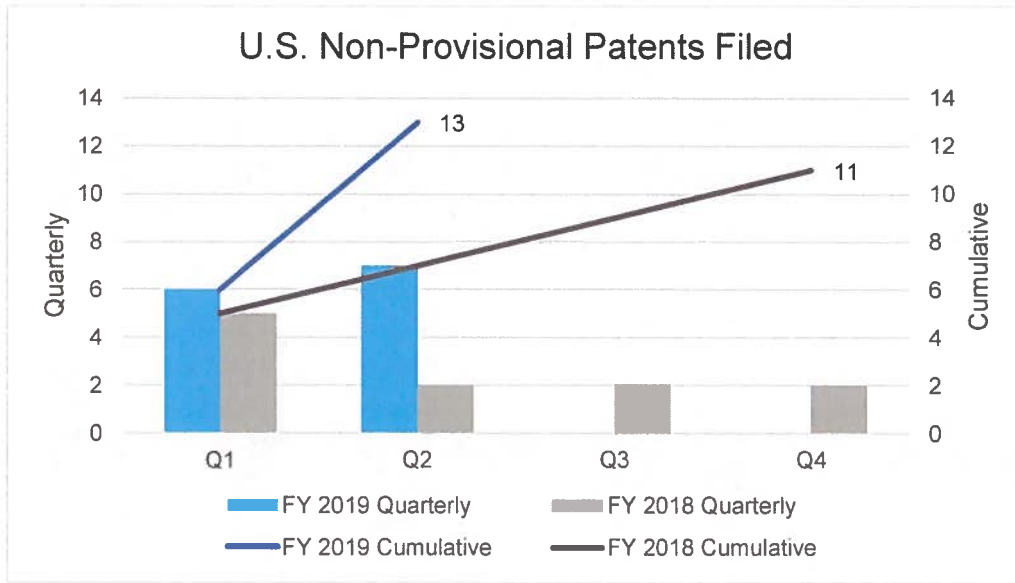


U.S. Provisional Patents Filed  
As of Quarter Two – FY 2019

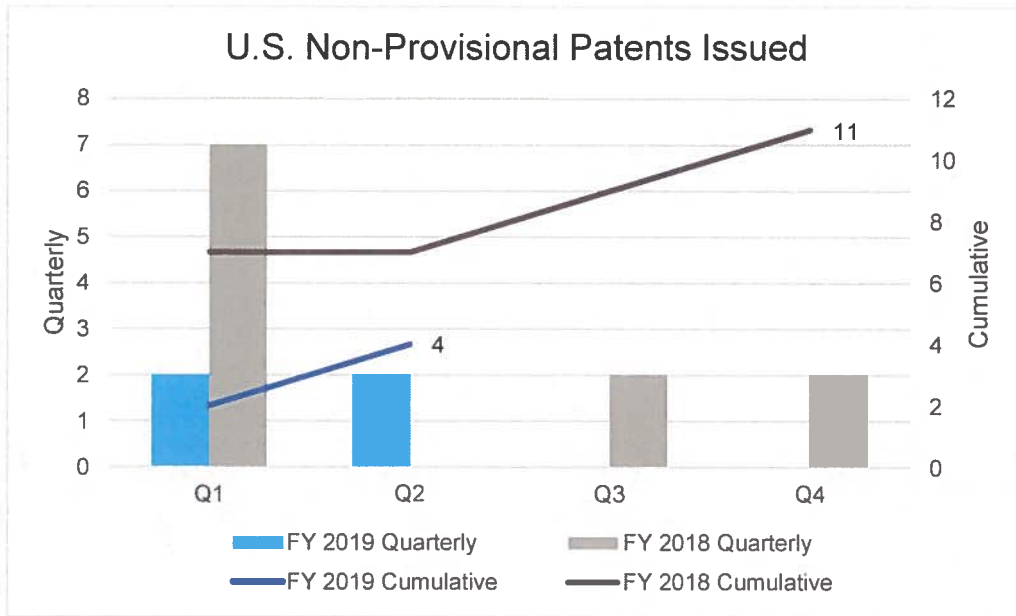




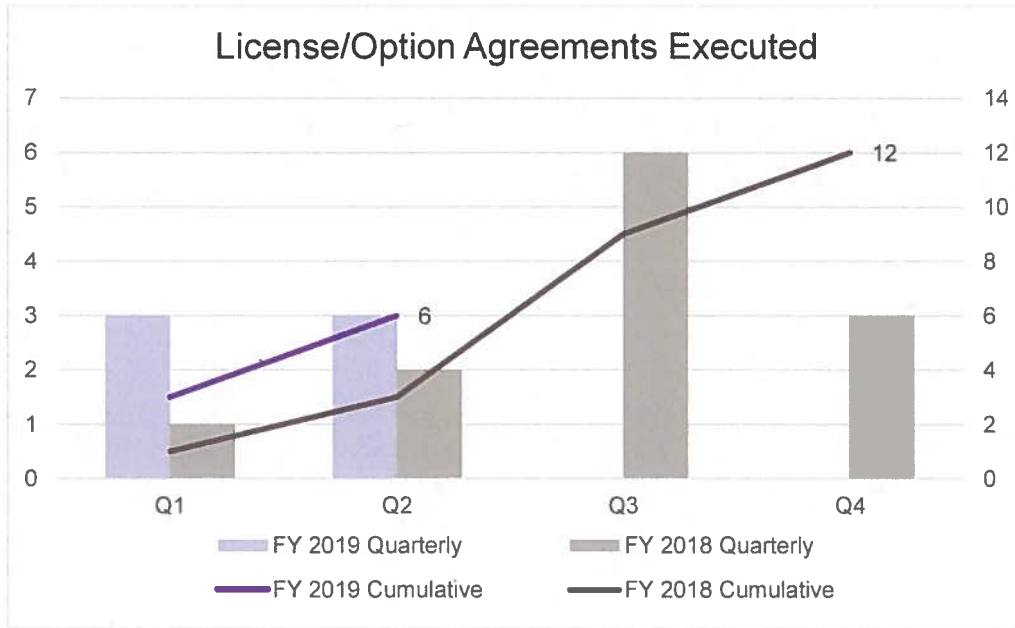
U.S. Non-Provisional Patents Filed  
As of Quarter Two – FY 2019



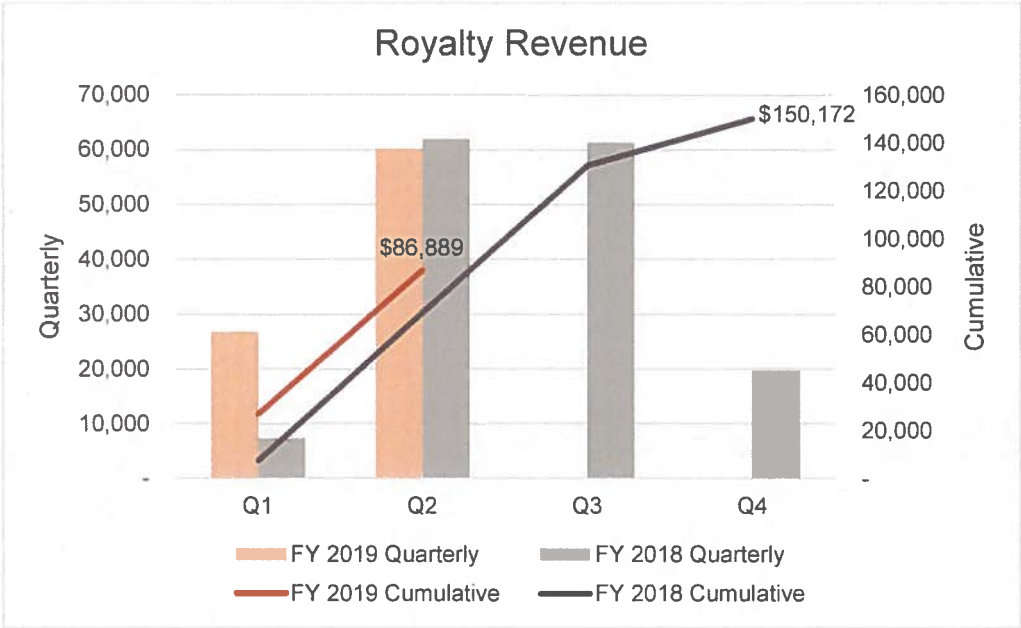
U.S. Non-Provisional Patents Issued  
As of Quarter Two – FY 2019



License/Option Agreements  
As of Quarter Two – FY 2019



**Royalty Revenue**  
As of Quarter Two – FY 2019



FY 2019 Monthly Report of Awards to Date as of December 31, 2018						
Summary By Campus						
Campus	FY 2018		FY 2019		\$ Change	% Change
	Award Count	Award Amount	Award Count	Award Amount		
Hawai'i Community College	4	448,669	5	338,870	(109,799)	-24.5%
Honolulu Community College	6	1,294,220	7	1,439,307	145,087	11.2%
Kapi'olani Community College	11	4,229,453	8	3,182,882	(1,046,571)	-24.7%
Kaua'i Community College	3	877,867	4	871,368	(6,499)	-0.7%
Leeward Community College	5	3,251,986	4	2,657,989	(593,997)	-18.3%
University of Hawai'i Maui College	24	9,835,431	27	10,087,865	252,434	2.6%
Windward Community College	15	6,416,706	15	6,652,902	236,196	3.7%
<b>Subtotal Community Colleges and UH Maui College</b>	<b>68</b>	<b>26,354,332</b>	<b>70</b>	<b>25,231,183</b>	<b>(1,123,149)</b>	<b>-4.3%</b>
University of Hawai'i at Hilo	79	8,380,413	81	10,804,471	2,424,058	28.9%
University of Hawai'i at Manoa	838	168,275,073	890	188,724,441	20,449,368	12.2%
University of Hawai'i at West O'ahu	17	5,774,403	17	5,221,973	(552,430)	-9.6%
University of Hawai'i System	37	21,936,898	40	28,432,082	6,495,184	29.6%
<b>Grand Total</b>	<b>1,039</b>	<b>230,721,119</b>	<b>1,098</b>	<b>258,414,150</b>	<b>27,693,031</b>	<b>12.0%</b>
FY 2019 Monthly Report of Awards to Date as of December 31, 2018						
Campus Details						
Campus	FY 2017		FY 2018		\$ Change	% Change
	Award Count	Award Amount	Award Count	Award Amount		
<b>Hawai'i Community College</b>	<b>4</b>	<b>448,669</b>	<b>5</b>	<b>338,870</b>	<b>(109,799)</b>	<b>-24.5%</b>
Chancellor, Hawaii Community College	4	448,669	5	338,870	(109,799)	-24.5%
Academic Affairs (Hawaii CC)	2	384,919	2	250,000	(134,919)	-35.1%
Liberal Arts and Public Services	1	13,750	-	-	(13,750)	-100.0%
Office of Continuing Education & Training	1	50,000	2	78,870	28,870	57.7%
UH Center at West Hawai'i	-	-	1	10,000	10,000	100.0%
<b>Honolulu Community College</b>	<b>6</b>	<b>1,294,220</b>	<b>7</b>	<b>1,439,307</b>	<b>145,087</b>	<b>11.2%</b>
Chancellor, Honolulu Community College	6	1,294,220	7	1,439,307	145,087	11.2%
Academic Affairs (Honolulu CC)	1	576,039	2	792,641	216,602	37.6%
Chancellor, Honolulu Community College	2	325,128	2	283,461	(41,667)	-12.8%
Early Childhood (Honolulu CC)	1	40,000	1	40,000	-	0.0%
Pacific Center for Advanced Technology Training	-	-	1	20,152	20,152	100.0%
University College	2	353,053	1	303,053	(50,000)	-14.2%
<b>Kapi'olani Community College</b>	<b>11</b>	<b>4,229,453</b>	<b>8</b>	<b>3,182,882</b>	<b>(1,046,571)</b>	<b>-24.7%</b>
Chancellor, Kapiolani Community College	11	4,229,453	8	3,182,882	(1,046,571)	-24.7%
Arts and Sciences Academic Program	-	-	1	43,246	43,246	100.0%
Chancellor, Kapiolani Community College	3	2,841,211	3	2,591,369	(249,842)	-8.8%
Continuing Education / Non-Credit Program	-	-	2	44,000	44,000	100.0%
Culinary Arts (KCC)	2	132,756	-	-	(132,756)	-100.0%
Emergency Medical Services	3	639,480	1	149,480	(490,000)	-76.6%
Office for Institutional Effectiveness	1	2,000	-	-	(2,000)	-100.0%
Student Support Services	2	614,006	1	354,787	(259,219)	-42.2%
<b>Kaua'i Community College</b>	<b>3</b>	<b>877,867</b>	<b>4</b>	<b>871,368</b>	<b>(6,499)</b>	<b>-0.7%</b>
Chancellor, Kauai Community College	3	877,867	4	871,368	(6,499)	-0.7%
Chancellor, Kauai Community College	3	877,867	4	871,368	(6,499)	-0.7%
<b>Leeward Community College</b>	<b>5</b>	<b>3,251,986</b>	<b>4</b>	<b>2,657,989</b>	<b>(593,997)</b>	<b>-18.3%</b>
Chancellor, Leeward Community College	5	3,251,986	4	2,657,989	(593,997)	-18.3%
Chancellor, Leeward Community College	5	3,251,986	3	2,583,775	(668,211)	-20.5%
Hawaiian Studies (Leeward CC)	-	-	1	74,214	74,214	100.0%
<b>University of Hawai'i at Hilo</b>	<b>79</b>	<b>8,380,413</b>	<b>81</b>	<b>10,804,471</b>	<b>2,424,058</b>	<b>28.9%</b>
Chancellor, UH Hilo	4	1,683,215	1	848,825	(834,390)	-49.6%
Chancellor, UH Hilo	4	1,683,215	1	848,825	(834,390)	-49.6%
College of Agriculture, Forestry and Natural Resource Mgt	9	556,013	8	867,626	311,613	56.0%
College of Agriculture, Forestry and Natural Resource Mgt	5	279,454	6	318,210	38,756	13.9%
Pacific Aquaculture and Coastal Resources Ctr	4	276,559	2	549,416	272,857	98.7%
College of Arts and Sciences	16	1,495,966	23	3,948,474	2,452,508	163.9%
Anthropology (UH Hilo)	-	-	1	600,000	600,000	100.0%
Biology (UH Hilo)	4	280,803	-	-	(280,803)	-100.0%
College of Arts and Sciences	1	300,000	1	329,995	29,995	10.0%
Geography (UH Hilo)	2	208,795	4	548,379	339,584	162.6%
Marine Science	1	24,373	3	583,805	559,432	2295.3%
Mathematics (UH Hilo)	1	7,000	1	8,400	1,400	20.0%
Natural Sciences Division	5	479,483	7	1,200,325	720,842	150.3%
Physics and Astronomy	1	95,512	1	34,608	(60,904)	-63.8%
Social Sciences Division	1	100,000	3	249,934	149,934	149.9%
Tropical Conservation Biology and Environmental Science	-	-	2	393,028	393,028	100.0%
College of Continuing Education and Community Svc	2	67,750	-	-	(67,750)	-100.0%
College of Continuing Education and Community Svc	2	67,750	-	-	(67,750)	-100.0%
<b>College of Pharmacy</b>	<b>5</b>	<b>123,660</b>	<b>5</b>	<b>150,880</b>	<b>27,220</b>	<b>22.0%</b>
College of Pharmacy	2	36,260	1	31,260	(5,000)	-13.8%
Pharmaceutical Sciences	2	47,400	2	79,959	32,559	68.7%
Pharmacy Practice	1	40,000	2	39,661	(339)	-0.8%
<b>Hawaii Small Business Development Center</b>	<b>1</b>	<b>100,000</b>	<b>1</b>	<b>70,000</b>	<b>(30,000)</b>	<b>-30.0%</b>
Hawaii Small Business Development Center	1	100,000	1	70,000	(30,000)	-30.0%
<b>Imiloa Astronomy Center Of Hawaii</b>	<b>7</b>	<b>407,134</b>	<b>3</b>	<b>165,978</b>	<b>(241,156)</b>	<b>-59.2%</b>
Imiloa Astronomy Center Of Hawaii	7	407,134	3	165,978	(241,156)	-59.2%
<b>Ka Haka'Ula O Ke'Elkolanl-UHH</b>	<b>3</b>	<b>1,574,437</b>	<b>6</b>	<b>1,105,307</b>	<b>(469,130)</b>	<b>-29.8%</b>
Hale Kuamo'o Center	1	634,437	3	848,318	213,881	33.7%

Ka Haka'Ula O Ke'Elikolani-UHH	2	940,000	3	256,989	(683,011)	-72.7%
Vice Chancellor for Academic Affairs (UH Hilo)	1	57,000	-	-	(57,000)	-100.0%
Vice Chancellor for Academic Affairs (UH Hilo)	1	57,000	-	-	(57,000)	-100.0%
Vice Chancellor for Administrative Affairs	1	2,250	1	2,250	-	0.0%
Vice Chancellor for Administrative Affairs	1	2,250	1	2,250	-	0.0%
Vice Chancellor for Research	20	1,221,248	16	1,704,355	483,107	39.6%
Vice Chancellor for Research	20	1,221,248	16	1,704,355	483,107	39.6%
Vice Chancellor for Student Affairs	10	1,091,740	17	1,940,776	849,036	77.8%
Center For Gifted And Talented Native Hawaiian Children	1	44,800	2	86,466	41,666	93.0%
Vice Chancellor for Student Affairs	9	1,046,940	15	1,854,310	807,370	77.1%
<b>University of Hawai'i at Manoa</b>	<b>838</b>	<b>168,275,073</b>	<b>890</b>	<b>188,724,441</b>	<b>20,449,368</b>	<b>12.2%</b>
Chancellor, UH Manoa	1	30,000	-	-	(30,000)	-100.0%
Chancellor, UH Manoa	1	30,000	-	-	(30,000)	-100.0%
College of Arts and Humanities	9	340,325	13	422,754	82,429	24.2%
American Studies	2	104,618	-	-	(104,618)	-100.0%
Art and Art History	-	-	3	83,743	83,743	100.0%
College of Arts and Humanities	-	-	1	82,000	82,000	100.0%
History (UH Manoa)	1	52,777	1	5,000	(47,777)	-90.5%
Music (UH Manoa)	1	5,930	2	19,218	13,288	224.1%
Philosophy (UH Manoa)	2	160,000	1	1,000	(159,000)	-99.4%
Religion (UH Manoa)	-	-	1	14,101	14,101	100.0%
Theatre and Dance	-	-	1	20,000	20,000	100.0%
UHM Uehiro Academy for Philosophy and Ethics in Education	3	17,000	3	197,692	180,692	1062.9%
College of Education	39	7,541,003	52	17,937,996	10,396,993	137.9%
Center on Disability Studies/University Affiliated Pgms	17	3,994,306	27	8,168,179	4,173,873	104.5%
College of Education	4	865,975	5	3,030,963	2,164,988	250.0%
Curriculum Research and Development Group	8	1,276,302	12	2,020,499	744,197	58.3%
Department of Curriculum Studies	1	66,534	1	578,985	512,451	770.2%
Department of Educational Psychology	-	-	1	1,026	1,026	100.0%
Department of Kinesiology and Rehabilitation Science	6	429,481	2	305,510	(123,971)	-28.9%
Department of Special Education	2	498,074	3	3,783,058	3,284,984	659.5%
Institute for Teacher Education	1	410,331	1	49,776	(360,555)	-87.9%
College of Engineering	17	2,299,986	31	3,787,054	1,487,068	64.7%
Civil and Environmental Engineering	9	1,300,682	5	893,175	(407,507)	-31.3%
College of Engineering	3	769,160	2	614,710	(154,450)	-20.1%
Electrical Engineering	2	97,144	10	941,612	844,468	869.3%
Hawaii Center for Advanced Communications	-	-	1	100,032	100,032	100.0%
Mechanical Engineering	3	133,000	13	1,237,525	1,104,525	830.5%
College of Language, Linguistics and Literature	17	1,366,084	17	1,394,991	28,907	2.1%
Center for Language and Technology	2	16,339	1	156,000	139,661	854.8%
College of Language, Linguistics and Literature	1	174,700	1	98,413	(76,287)	-43.7%
Department of East Asian Languages and Literature	4	922,073	3	902,606	(19,467)	-2.1%
Department of English	3	6,200	-	-	(6,200)	-100.0%
Department of Indo-Pacific Languages	-	-	1	104,370	104,370	100.0%
Department of Linguistics	6	246,260	5	53,107	(193,153)	-78.4%
Department of Second Language Studies	-	-	5	77,932	77,932	100.0%
Dept of Languages and Literatures of Europe and the Americas	1	512	1	2,563	2,051	400.6%
College of Natural Sciences	125	13,925,308	116	20,517,727	6,592,419	47.3%
College of Natural Sciences	-	-	1	526,991	526,991	100.0%
Department of Biology (Biology Program)	7	865,860	9	2,556,252	1,690,392	195.2%
Department of Botany	91	11,093,724	79	13,696,032	2,602,308	23.5%
Department of Chemistry	7	346,532	5	994,468	647,936	187.0%
Department of Mathematics	3	286,345	3	315,092	28,747	10.0%
Department of Microbiology	1	540	-	-	(540)	-100.0%
Department of Physics and Astronomy	12	981,960	10	1,159,497	177,537	18.1%
Information and Computer Sciences	4	350,347	9	1,269,395	919,048	262.3%
College of Social Sciences	42	10,396,092	53	12,085,443	1,689,351	16.2%
College of Social Sciences	1	3,000	4	241,172	238,172	7939.1%
Department of Anthropology	2	545,767	2	148,955	(396,812)	-72.7%
Economics (UH Manoa)	5	242,905	1	35,187	(207,718)	-85.5%
Geography (UH Manoa)	4	247,210	7	711,098	463,888	187.6%
Political Science (UH Manoa)	1	20,742	-	-	(20,742)	-100.0%
Psychology (UH Manoa)	3	1,082,845	5	936,346	(146,499)	-13.5%
School of Communications	2	36,746	3	242,990	206,244	561.3%
Social Science Research Institute	18	2,916,277	26	3,012,720	96,443	3.3%
Sociology (UH Manoa)	1	20,000	1	5,000	(15,000)	-75.0%
Urban and Regional Planning	5	5,280,600	4	6,751,975	1,471,375	27.9%
College of Tropical Agriculture and Human Resources	78	10,301,421	80	8,442,466	(1,858,955)	-18.0%
Center on the Family	5	628,160	3	93,000	(535,160)	-85.2%
College of Tropical Agriculture and Human Resources	6	703,867	6	1,613,147	909,280	129.2%
Cooperative Extension	3	716,464	1	279,092	(437,372)	-61.0%
Family and Consumer Sciences	2	130,647	2	180,000	49,353	37.8%
Hawaii County	4	521,608	7	525,445	3,837	0.7%
Human Nutrition, Food and Animal Sciences	5	322,743	9	815,185	492,442	152.6%
Kauai County	1	13,800	-	-	(13,800)	-100.0%
Maui County	3	244,714	2	128,940	(115,774)	-47.3%
Molecular Biosciences and Bioengineering	1	75,000	5	385,723	310,723	414.3%
Natural Resources and Environmental Mgt	8	682,876	13	370,076	(312,800)	-45.8%
Oahu County	2	571,526	1	110,000	(461,526)	-80.8%
Office of The Assoc Dean for Academic and Student Affairs	4	2,162,953	1	150,000	(2,012,953)	-93.1%
Plant and Environmental Protection Sciences	29	3,374,388	26	3,673,036	298,648	8.9%



Tropical Plant and Soil Science	5	152,675	4	118,822	(33,853)	-22.2%
<b>Colleges of Arts and Sciences</b>	<b>1</b>	<b>18,000</b>	<b>-</b>	<b>-</b>	<b>(18,000)</b>	<b>-100.0%</b>
Colleges of Arts and Sciences	1	18,000	-	-	(18,000)	-100.0%
<b>Hawai'iinuiakea School of Hawaiian Knowledge</b>	<b>4</b>	<b>2,534,574</b>	<b>5</b>	<b>3,213,088</b>	<b>678,514</b>	<b>26.8%</b>
Hawai'iinuiakea School of Hawaiian Knowledge	4	2,534,574	3	2,156,713	(377,861)	-14.9%
Kamakakuokalani Center for Hawaiian Studies	-	-	1	15,000	15,000	100.0%
Kawaihuelani Center for Hawaiian Language	-	-	1	1,041,375	1,041,375	100.0%
<b>Institute for Astronomy</b>	<b>22</b>	<b>8,307,301</b>	<b>52</b>	<b>8,870,260</b>	<b>562,959</b>	<b>6.8%</b>
Institute for Astronomy	22	8,307,301	52	8,870,260	562,959	6.8%
<b>John A. Burns School of Medicine</b>	<b>115</b>	<b>28,169,255</b>	<b>111</b>	<b>32,447,046</b>	<b>4,277,791</b>	<b>15.2%</b>
Associate Dean for Academic Affairs	6	2,371,718	5	2,446,096	74,378	3.1%
Department of Anatomy, Biochemistry, and Physiology	5	766,013	7	1,165,701	399,688	52.2%
Department of Cell and Molecular Biology	6	2,969,029	5	2,926,807	(42,222)	-1.4%
Department of Complementary and Alternative Medicine	3	97,863	2	574,274	476,411	486.8%
Department of Family Medicine and Community Health	3	2,050,100	5	193,090	(1,857,010)	-90.6%
Department of Geriatric Medicine	3	111,310	3	1,859,364	1,748,054	1570.4%
Department of Medicine	15	1,497,129	18	2,015,239	518,110	34.6%
Department of Native Hawaiian Health	9	1,177,504	7	802,211	(375,293)	-31.9%
Department of Obstetrics, Gynecology and Women's Health	7	595,374	8	4,528,212	3,932,838	660.6%
Department of Pediatrics	11	3,007,951	11	4,345,910	1,337,959	44.5%
Department of Psychiatry	6	1,848,780	6	4,852,376	3,003,596	162.5%
Department of Surgery	10	1,311,944	10	1,901,306	589,362	44.9%
Department of Tropical Medicine, Medical Micro and Pharm	19	2,572,474	17	2,191,932	(380,542)	-14.8%
Institute for Biogenesis Research	1	195,492	2	2,387,607	2,192,115	1121.3%
John A. Burns School of Medicine	10	6,917,574	5	256,921	(6,660,653)	-96.3%
Native Hawaiian Center of Excellence	1	679,000	-	-	(679,000)	-100.0%
<b>Lyon Arboretum</b>	<b>3</b>	<b>153,592</b>	<b>-</b>	<b>-</b>	<b>(153,592)</b>	<b>-100.0%</b>
Lyon Arboretum	3	153,592	-	-	(153,592)	-100.0%
<b>Office of Research Compliance</b>	<b>1</b>	<b>49,900</b>	<b>-</b>	<b>-</b>	<b>(49,900)</b>	<b>-100.0%</b>
Animal and Veterinary Services Program	1	49,900	-	-	(49,900)	-100.0%
<b>Outreach College</b>	<b>6</b>	<b>124,887</b>	<b>3</b>	<b>118,170</b>	<b>(6,717)</b>	<b>-5.4%</b>
Community Programs	4	62,750	2	77,500	14,750	23.5%
Outreach College	2	62,137	1	40,670	(21,467)	-34.5%
<b>School of Architecture</b>	<b>1</b>	<b>150,175</b>	<b>1</b>	<b>170,565</b>	<b>20,390</b>	<b>13.6%</b>
School of Architecture	1	150,175	1	170,565	20,390	13.6%
<b>School of Nursing and Dental Hygiene</b>	<b>9</b>	<b>2,014,904</b>	<b>4</b>	<b>408,044</b>	<b>(1,606,860)</b>	<b>-79.7%</b>
Department of Nursing	7	1,928,453	3	385,556	(1,542,897)	-80.0%
School of Nursing and Dental Hygiene	2	86,451	1	22,488	(63,963)	-74.0%
<b>School of Ocean and Earth Science and Technology</b>	<b>225</b>	<b>52,144,547</b>	<b>216</b>	<b>50,139,378</b>	<b>(2,005,169)</b>	<b>-3.8%</b>
Center for Microbial Oceanography, Research and Edu (C-MORE)	8	3,918,028	8	4,009,005	90,977	2.3%
Department of Atmospheric Sciences	3	264,402	3	218,793	(45,609)	-17.2%
Department of Geology and Geophysics	10	717,272	17	1,713,529	996,257	138.9%
Department of Ocean and Resources Engineering	6	1,090,462	3	331,936	(758,526)	-69.6%
Department of Oceanography	29	6,379,768	17	3,438,128	(2,941,640)	-46.1%
Hawaii Institute of Geophysics and Planetology (HIGP)	48	5,498,059	37	6,199,643	701,584	12.8%
Hawaii Institute of Marine Biology (HIMB)	22	2,563,350	31	3,063,045	499,695	19.5%
Hawaii Natural Energy Institute (HNEI)	6	2,479,722	6	1,059,376	(1,420,346)	-57.3%
International Pacific Research Center (IPRC)	9	1,683,182	12	1,902,539	219,357	13.0%
Joint Institute for Marine and Atmospheric Research (JIMAR)	50	19,574,572	44	17,635,384	(1,939,188)	-9.9%
Pacific Biosciences Research Center	13	1,187,089	18	3,582,261	2,395,172	201.8%
School of Ocean and Earth Science and Technology	8	4,617,450	5	2,408,892	(2,208,558)	-47.8%
Sea Grant College Program	13	2,171,191	14	4,560,299	2,389,108	110.0%
University Marine Center/Ship Operations	-	-	1	16,548	16,548	100.0%
<b>School of Pacific and Asian Studies</b>	<b>10</b>	<b>1,769,523</b>	<b>11</b>	<b>1,344,262</b>	<b>(425,261)</b>	<b>-24.0%</b>
Center for Japanese Studies	2	571,350	4	400,082	(171,268)	-30.0%
Center for Korean Studies	4	213,273	3	198,853	(14,420)	-6.8%
Center for Pacific Islands Studies	2	405,000	-	-	(405,000)	-100.0%
Center for Southeast Asian Studies	2	579,900	1	280,500	(299,400)	-51.6%
School of Pacific and Asian Studies	-	-	3	464,827	464,827	100.0%
<b>School of Social Work</b>	<b>26</b>	<b>4,766,351</b>	<b>25</b>	<b>2,971,895</b>	<b>(1,794,456)</b>	<b>-37.6%</b>
Center on Aging	1	86,231	2	389,072	302,841	351.2%
Office of Public Health Studies	17	3,587,240	17	2,158,595	(1,428,645)	-39.8%
School of Social Work	8	1,092,880	6	424,228	(668,652)	-61.2%
<b>Shidler College of Business</b>	<b>-</b>	<b>-</b>	<b>3</b>	<b>325,617</b>	<b>325,617</b>	<b>100.0%</b>
Department of Information Technology Management	-	-	3	325,617	325,617	100.0%
<b>University of Hawaii Cancer Center</b>	<b>39</b>	<b>12,556,926</b>	<b>52</b>	<b>16,816,399</b>	<b>4,259,473</b>	<b>33.9%</b>
Cancer Biology	4	347,306	9	1,695,793	1,348,487	388.3%
Cancer Epidemiology	17	6,105,868	25	8,224,352	2,118,484	34.7%
Cancer Prevention in the Pacific	-	-	2	486,264	486,264	100.0%
Translational and Clinical Research	11	1,958,582	4	1,314,429	(644,153)	-32.9%
University of Hawaii Cancer Center	7	4,145,170	12	5,095,561	950,391	22.9%
<b>Vice Chancellor, Academic Affairs</b>	<b>7</b>	<b>1,173,822</b>	<b>8</b>	<b>1,248,424</b>	<b>74,602</b>	<b>6.4%</b>
Graduate Education	1	695,000	1	657,000	(38,000)	-5.5%
Library (UH Manoa)	4	52,081	4	163,405	111,324	213.8%
Service Learning	1	22,886	-	-	(22,886)	-100.0%
Undergraduate Education	1	403,855	3	428,019	24,164	6.0%
<b>Vice Chancellor, Research</b>	<b>-</b>	<b>-</b>	<b>2</b>	<b>30,000</b>	<b>30,000</b>	<b>100.0%</b>
Vice Chancellor, Research	-	-	2	30,000	30,000	100.0%
<b>Vice Chancellor, Students</b>	<b>12</b>	<b>2,799,843</b>	<b>13</b>	<b>4,590,712</b>	<b>1,790,869</b>	<b>64.0%</b>
Health & Wellness	1	25,000	1	19,305	(5,695)	-22.8%
Student Equity Excel & Diversity	10	2,752,843	10	4,479,907	1,727,064	62.7%

Women's Center	1	22,000	2	91,500	69,500	315.9%
<b>Water Resources Research Center</b>	<b>9</b>	<b>3,669,214</b>	<b>5</b>	<b>278,392</b>	<b>(3,390,822)</b>	<b>-92.4%</b>
Water Resources Research Center	9	3,669,214	5	278,392	(3,390,822)	-92.4%
<b>William S. Richardson School of Law</b>	<b>20</b>	<b>1,672,040</b>	<b>17</b>	<b>1,163,758</b>	<b>(508,282)</b>	<b>-30.4%</b>
William S. Richardson School of Law	20	1,672,040	17	1,163,758	(508,282)	-30.4%
<b>University of Hawai'i at West O'ahu</b>	<b>17</b>	<b>5,774,403</b>	<b>17</b>	<b>5,221,973</b>	<b>(552,430)</b>	<b>-9.6%</b>
Chancellor, UH West Oahu	17	5,774,403	17	5,221,973	(552,430)	-9.6%
Anthropology (UH WO)	2	1,200	1	600	(600)	-50.0%
Chancellor, UH West Oahu	3	2,059,769	5	2,314,072	254,303	12.3%
Division of Social Sciences	5	718,166	1	151,576	(566,590)	-78.9%
Elementary Education	-	-	1	142,314	142,314	100.0%
Vice Chancellor for Academic Affairs (UH WO)	-	-	2	61,815	61,815	100.0%
Vice Chancellor for Student Affairs	7	2,995,268	7	2,551,596	(443,672)	-14.8%
<b>University of Hawai'i Maui College</b>	<b>24</b>	<b>9,835,431</b>	<b>27</b>	<b>10,087,865</b>	<b>252,434</b>	<b>2.6%</b>
Chancellor, UH Maui College	24	9,835,431	27	10,087,865	252,434	2.6%
Academic Affairs (UH Maui College)	1	2,000,000	2	4,013,888	2,013,888	100.7%
Allied Health Department	1	1,100	-	-	(1,100)	-100.0%
Chancellor, UH Maui College	16	4,331,536	21	4,278,756	(52,780)	-1.2%
Cooperative Education (UH Maui College)	2	58,680	-	-	(58,680)	-100.0%
General Education	1	800,000	2	1,075,398	275,398	34.4%
Human Services (UH Maui College)	1	1,883,888	-	-	(1,883,888)	-100.0%
Music (UH Maui College)	1	500,000	1	448,536	(51,464)	-10.3%
Student Affairs (UH Maui College)	1	260,227	1	271,287	11,060	4.3%
<b>University of Hawai'i System</b>	<b>37</b>	<b>21,936,898</b>	<b>40</b>	<b>28,432,082</b>	<b>6,495,184</b>	<b>29.6%</b>
Office of the Vice President for Community Colleges	4	1,380,851	3	228,500	(1,152,351)	-83.5%
Office of the Vice President for Community Colleges	4	1,380,851	3	228,500	(1,152,351)	-83.5%
Office of the Vice President for Research and Innovation	11	4,234,564	14	10,022,676	5,788,112	136.7%
Applied Research Laboratory	10	4,227,561	12	9,989,852	5,762,291	136.3%
STEM Pre-Academy	1	7,003	2	32,824	25,821	368.7%
Office of the VP for Academic Planning and Policy	9	3,555,476	11	6,453,088	2,897,612	81.5%
Hawai'i P-20 Partnerships for Education Office	7	3,366,450	7	4,819,325	1,452,875	43.2%
Office of the VP for Academic Planning and Policy	2	189,026	4	1,633,763	1,444,737	764.3%
Office of the VP for Information Tech/Chief Info Officer	13	12,766,007	12	11,727,818	(1,038,189)	-8.1%
Office of the VP for Information Tech/Chief Info Officer	6	5,728,560	8	6,541,418	812,858	14.2%
Pacific Disaster Center	7	7,037,447	4	5,186,400	(1,851,047)	-26.3%
<b>Windward Community College</b>	<b>15</b>	<b>6,416,706</b>	<b>15</b>	<b>6,652,902</b>	<b>236,196</b>	<b>3.7%</b>
Chancellor, Windward Community College	15	6,416,706	15	6,652,902	236,196	3.7%
Chancellor, Windward Community College	15	6,416,706	15	6,652,902	236,196	3.7%
<b>Grand Total</b>	<b>1,039</b>	<b>230,721,119</b>	<b>1,098</b>	<b>258,414,150</b>	<b>27,693,031</b>	<b>12.0%</b>



# Research at the University of Hawai'i Hilo



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HILO

# UH Hilo Research Strengths



- ▶ **UH Hilo focuses on high impact research done with county, state, and federal agencies**
- ▶ **Research has meaning for our island and our state**
- ▶ **Research is used to advance our teaching mission and incorporates both graduate and undergraduate students**
- ▶ **Research is coupled with niche graduate programs to create areas of excellence**
- ▶ **Research has economic impact in our communities**



# Importance of UH Hilo to community: Leilani Estates Eruption of 2018



- ▶ UH Hilo Geology Department / CSAV working with the USGS Hawaiian Volcano Observatory provided the first-ever “real-time” analysis of chemical changes in the lava that allowed prediction of change in eruptive volumes 5 days prior to occurrence. USGS Cooperative Grant \$300,000.

UH Hilo Geography Department provided 24 hour a day, 7 day a week, drone surveillance to Hawai'i County Civil Defense with night time thermal cameras. Streaming video allowed for real-time decision making by authorities. NSF RAPID GRANT AWARD for \$55,000.

# Importance of UH Hilo to community: Leilani Estates Eruption of 2018



**UH Hilo Geology faculty appointed to Governor Ige's Commission to oversee safe operations at the PGV Geothermal Plant.**

**UH Hilo provided 3 of the 6 non-USGS members of the USGS Hawaiian Volcano Observatory Team that monitored the eruption. 3 UH Hilo graduates also worked for the USGS HVO. All were on a paper in Science and several were featured on Nova and in Science News.**

**UH Hilo provided space for USGS HVO to operate when their building was closed due to damage early in the eruption.**

# UH Hilo Research Grant Awards 2014 to 2018

<b>Fiscal Year College or Unit</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>5 year total</b>
College of Natural and Health Sciences	\$ 4076094	\$ 3801888	\$ 3864553	\$ 4215798	\$ 2928225	<b>\$ 18,886,558</b>
College of Arts and Sciences						
DKI College of Pharmacy	\$ 6584351	\$ 6255453	\$ 629526	\$ 667726	\$ 196873	<b>\$ 14,333,929</b>
College of Agriculture, Forestry, and Natural Resource Management	\$ 898884	\$ 880810	\$ 1674869	\$ 1409810	\$ 1077332	<b>\$ 5,941,705</b>
Ka Haka`Ula o Ke`elikolani College of Hawaiian Language	\$ 279698	\$ 283900	\$ 557887	\$ 860980	\$ 1774041	<b>\$ 3,756,506</b>
College of Business and Economics		\$ 24970			\$ 120000	<b>\$ 144,970</b>
Center for Community Engagement	\$ 7500	\$ 736100	\$ 35039	\$ 99931	\$ 31750	<b>\$ 910,320</b>
VC Academic Affairs	\$ 1594780	\$ 1934012	\$ 1606691	\$ 874009	\$ 1487854	<b>\$ 7,497,346</b>
Chancellor	\$ 4486703	\$ 5953976	\$ 1144232	\$ 1436257	\$ 1958215	<b>\$ 14,979,383</b>
VC Student Affairs	\$ 3334475	\$ 2644572	\$ 1999490	\$ 1901860	\$ 1347664	<b>\$ 11,228,061</b>
Small Business Development Center	\$ 816250	\$ 1093089	\$ 775150	\$ 909979	\$ 1142235	<b>\$ 4,736,703</b>
Imiloa Astronomy Center	\$ 486520	\$ 267347	\$ 378393	\$ 505336	\$ 832854	<b>\$ 2,470,450</b>
UH Hilo Vulcano Athletics		\$ 10000				<b>\$ 10,000</b>
VC Administrative Affairs	\$ 2125	\$ 3925	\$ 2250			<b>\$ 8,300</b>
<b>TOTAL</b>	<b>\$ 22,565,255</b>	<b>\$ 23,888,242</b>	<b>\$ 12,669,755</b>	<b>\$ 12,881,686</b>	<b>\$ 12,950,593</b>	<b>\$ 84,955,531</b>



# Award to date comparison 2018-2019 vs 2017-2018 as of January 31, 2019



Type of Award	YTD Award Amount	YTD Award Count
<b>Current Fiscal Year 2018-2019</b>		
Research	\$ 5,230,804	41
Non-Research	\$ 6,494,159	48
<b>Overall - Total</b>	<b>\$ 11,724,963</b>	<b>89</b>

Type of Award	YTD Award Amount	YTD Award Count
<b>Last Fiscal Year 2017-2018</b>		
Research	\$ 2,905,723	42
Non-Research	\$ 6,137,430	43
<b>Overall - Total</b>	<b>\$ 9,043,153</b>	

Award amounts as of January 31, 2019 have increased by \$2,680,000 over the same time last year.

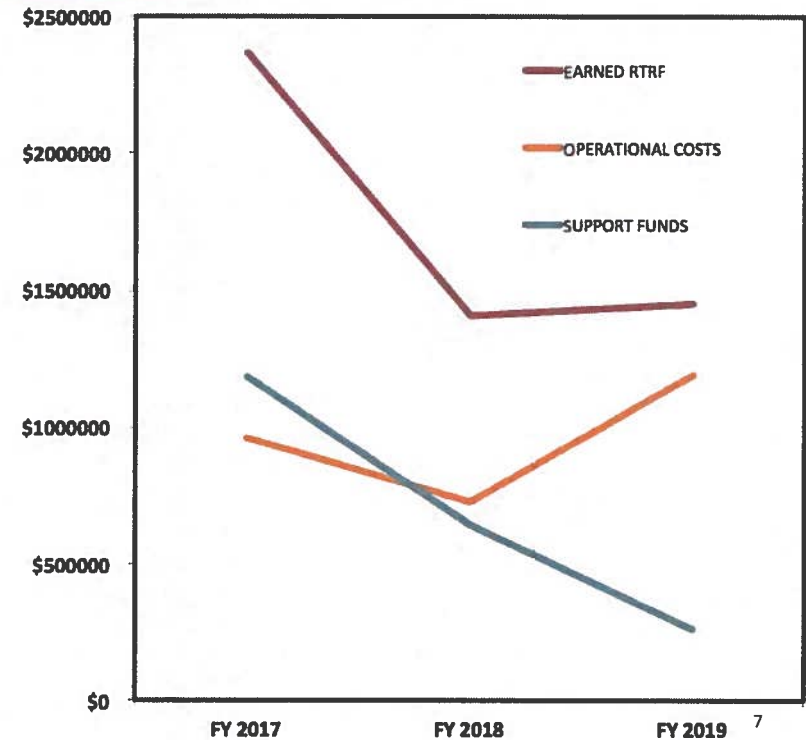
All of the increase is in research awards showing significant increased activity from faculty.

The total awards for the first 7 months of this year are within \$1.1 million dollars of the total amount for all of last year.

# UH Hilo RTRF Budgets FY 2017-FY 2019



UH Hilo RTRF BUDGET		FY 2017	FY 2018	FY 2019
<b>NET EARNED RTRF</b>		<b>\$2369697</b>	<b>\$1408803</b>	<b>\$1453193</b>
<b>OPERATIONAL COSTS</b>	FACILITIES	\$366000	\$295000	\$200000
	PI SUPPORT	\$247119	\$231119	\$221000
	Research Partnerships	\$297590	\$175605	\$232530
	TIG	\$50000	\$25000	\$20000
	Fiscal Oversight	\$0	\$0	\$336000
	RTRF repayment	\$0	\$0	\$182351
	<b>TOTAL OPERATIONAL COSTS (TOTAL)</b>	<b>\$960709</b>	<b>\$726724</b>	<b>\$1191881</b>
<b>RESEARCH SUPPORT FUNDS</b>	Faculty research OVPRI	\$100000	\$0	\$100000
	Research Council	\$120000	\$100000	\$30000
	RTRF to PI and UNIT	\$78324	\$13879	\$3000
	TCBES	\$279861	\$200000	\$72500
	NSF INBRE	\$212960	\$200000	\$30000
	LIBRARY	\$65000	\$54000	\$15000
	PACRC	\$74087	\$33632	\$10000
	Additional Staff	\$93756	\$40968	\$0
	Chancellor	\$160000	\$0	\$0
	<b>RESEARCH SUPPORT FUNDS (TOTAL)</b>	<b>\$1183988</b>	<b>\$642479</b>	<b>\$260500</b>
<b>Carryover Funds</b>	<b>\$225000</b>	<b>\$39600</b>	<b>\$812</b>	





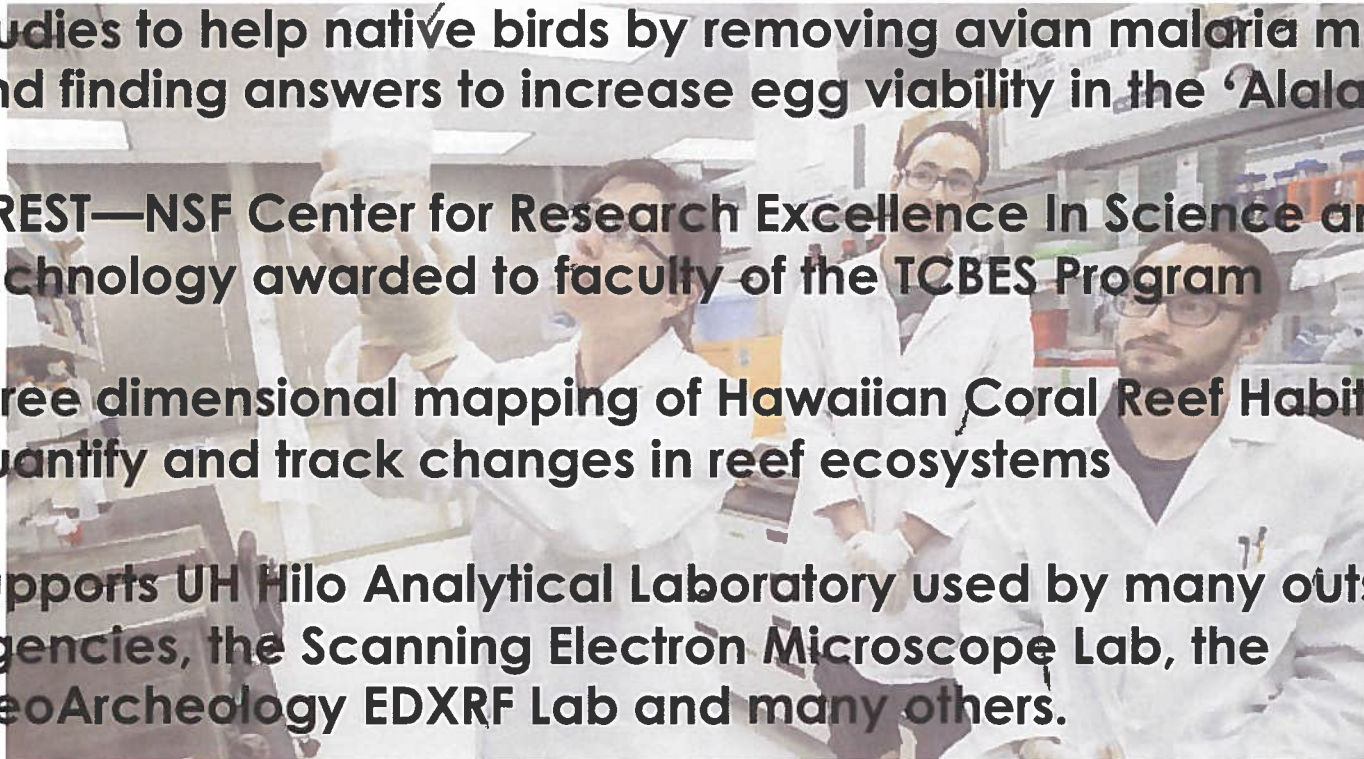
# College of Natural and Health Sciences

Tropical Conservation Biology and Environmental Sciences (TCBES) Biology  
Marine Science Mathematics Astronomy Geology Computer Science  
Kinesiology and Exercise Science Nursing



**FY18 and FY 19 \$4.6 million dollars in 47 grants**

- ▶ **Studies to help native birds by removing avian malaria mosquitos and finding answers to increase egg viability in the 'Alala crow**
- ▶ **CREST—NSF Center for Research Excellence In Science and Technology awarded to faculty of the TCBES Program**
- ▶ **Three dimensional mapping of Hawaiian Coral Reef Habitat to quantify and track changes in reef ecosystems**
- ▶ **Supports UH Hilo Analytical Laboratory used by many outside agencies, the Scanning Electron Microscope Lab, the GeoArcheology EDXRF Lab and many others.**





# Research and Community Partnerships

Hawaii Cooperative Studies Unit, Hawai'i-Pacific Islands Cooperative Ecosystems Studies Unit, Pacific Islands Climate Adaptation Science Center



FY18 and FY19 \$3.2 million dollars in 53 grants

- ▶ **Coordinates large number of research and programs with partner agencies and organizations focused on:**
  - ▶ **Understanding & stewarding Hawaii's resources—impact of climate change, development, invasive species on native ecosystems**
  - ▶ **Integration of community knowledge into research**
  - ▶ **Building future conservation leaders from within our communities**
  - ▶ **Linking students & faculty to research opportunities and partnerships**
  
- ▶ **Facilitates UH System partnerships**
  - ▶ **US Geological Survey Biological Resources Division and Hawai'i Cooperative Fisheries Unit, National Park Service, US Fish & Wildlife Service, USDA Forest Service, and Kamehameha Schools, DLNR, etc.**

# Ka Haka 'Ula o Ke'elikelani

Fy18 and FY19 \$2.8 million dollars in 19 grants



- ▶ **Hale Kuamo`o Programs to develop curriculum for Native Hawaiian immersion schools and integrate 'Ōlelo Hawai'i into**
- ▶ **Kahuawaiola Indigenous Teacher Education Program grants to create and continue the Masters Degree program for Hawaiian teachers.**
- ▶ **Developing Assessment tools for Native Hawaiian Schools, grants to continue the pioneering work in creating and sustaining a vibrant Hawaiian Immersion School network throughout the state.**

# College of Arts and Sciences

Geography and Environmental Science   Psychology   Sociology   Anthropology  
and Heritage Management   History   Art   Performing Arts   Languages   English



**FY18 and FY19 \$2.5 million dollars in 20 grants**

- ▶ **Automation of remote sensing and GIS techniques applied to finding invasive species and spread of Rapid Ohia Death (ROD)**
- ▶ **Natural Hazards, ROD, Mauna Kea environmental studies, forest monitoring using Unmanned Aerial Systems (drones).**
- ▶ **Support for the Heritage Management MA Program, Historic Resources Study for the Ala Kahakakai National Historic Trail, NSF LSAMP Grant: Islands of Opportunity, Hawaiian artifact analysis**
- ▶ **“The Paths We Cross: The Lives and Legacies of Koreans on the Big Island” book detailing Korean immigrants lives in Hawai‘i.**

# College of Agriculture, Forestry, and Natural Resource Management



FY18 and FY19 \$1.9 million dollars in 33 grants

- ▶ **USDA Agricultural Grants, Kalo Genome project, Beekeeping project with Alan Wong.**
- ▶ **Community Grants, adopted horses during volcanic crisis, working to create Tilapia marketing plan with KTA.**
- ▶ **PACRC—Aquaculture: Culturing mollusks, fish production; Aquaculture development in Pohnpei with Marine and Environmental Institute of Pohnpei and USGS Fisheries Unit.**
- ▶ **Mauna Kea: Studies of the Weikiu bug habitat and behavior at Mauna Kea's summit; Survey of insects on Mauna Kea (83,000)**



# Daniel K Inouye College of Pharmacy

FY18 and FY19 \$365,000 in 15 grants  
plus additional \$1 million dollars in INBRE and \$300k in State Funding



- ▶ **NIH INBRE Researcher Grants**
- ▶ **Rat Lungworm Laboratory, funded by the state to research how it is spread and ways to decrease possible contact**
- ▶ **Phytochemical Evaluation of Tropical Plants for Bioactive Compounds**
- ▶ **DKICP Koomoa Team: MYCN promotes Neuroblastoma progression**

# Student Internships, Fellowships, Scholarships

> \$2 million dollars since 2015



- ▶ **NIH SHARP—Undergraduate and Graduate Students in biomedicine**
- ▶ **NSF LSAMP Islands of Opportunity Alliance—partnership with Pacific Island higher education partners**
- ▶ **Pacific Internship Programs for Exploring Science (PIPES)—Summer conservation internship programs including NSF REU**
- ▶ **NSF-S-STEM GRANT—Scholarships for Pell-eligible students in STEM**
- ▶ **NSF-Ike Wai internships for STEM students, NASA SPACE GRANT and NOAA SEA GRANT—Research Fellowships for students**
- ▶ **Hau'oli Mau Loa Fellow - UH Graduate Assistantship Fund**

# Faculty and Resource Deployment Future Grants



- ▶ **NSF EPSCoR has funded 4 new positions in Data Science distributed in Math, Computer Science, Marine Science, and Business. We are working to integrate data science across our research and teaching activities.**
- ▶ **NIH COBRE Grant a UH Hilo collaboration in Environment and Health; Resubmitted. Funding Request \$8 million dollars**
- ▶ **EPSCoR TRACK 2**

# UH *Healthy Hawai'i*

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*UH's Commitment to a Healthier Hawai'i and Pacific*

Aimee Malia Grace, MD, MPH, FAAP  
Director of Health Science Policy, UH System  
UH Board of Regents Committee on Research and Innovation  
February 19, 2019



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# Background

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- Initiative to improve health and health care in Hawai'i and the Pacific by leveraging the UH System's health sciences programs and forging meaningful collaborative partnerships.
- Established through many listening sessions across the UH System and in the community.



# Key UH Collaborators

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- **UH System**
  - David Lassner, President
  - Vassilis Syrmos, Vice President for Research and Innovation
  - Don Straney, Vice President for Academic Planning and Policy
  - John Morton, Vice President for Community Colleges
- **UH Mānoa**
  - Office of the Vice Chancellor for Research (Michael Bruno, Velma Kameoka, Chad Walton)
  - Mary Boland (Dean) and Kristine Qureshi (Associate Dean of Research and Global Health), School of Nursing and Dental Hygiene
  - Kathryn Braun, Director, Office of Public Health Studies
  - Jerris Hedges, Dean, John A. Burns School of Medicine
  - Randall Holcombe, Director, UH Cancer Center
  - Denise Konan, Dean, College of Social Sciences
  - Noreen Mokuau, Dean, Myron B. Thompson School of Social Work



# Key UH Collaborators, cont.

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- **UH Hilo**
  - Carolyn Ma, Dean, Daniel K. Inouye College of Pharmacy
- **UH West Oahu**
  - Maenette Benham, Chancellor
  - Ricardo Custodio, Associate Professor of Allied Health Professions
- **Affiliates**
  - Larry Shapiro, CEO, University Health Partners
  - Kelley Withy, Director, Hawaii/Pacific Basin Area Health Education Center
  - Laura Reichhardt, Director, Hawaii State Center for Nursing



# UH Partners



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COMMUNITY COLLEGES



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of HAWAI'I®  
HILO



UNIVERSITY OF HAWAI'I  
CANCER CENTER



UNIVERSITY of HAWAI'I at MĀNOA  
SCHOOL OF NURSING & DENTAL HYGIENE  
Leadership • Excellence • Innovation



UNIVERSITY of HAWAI'I®  
MĀNOA  
Office of Public Health Studies

University  
Health  
Partners  
*of Hawaii*

UNIVERSITY OF HAWAI'I AT MĀNOA  
Myron B. Thompson  
School of Social Work



UNIVERSITY of HAWAI'I®  
KAPI'OLANI  
COMMUNITY COLLEGE



COLLEGE OF SOCIAL SCIENCES  
University of Hawai'i at Mānoa™

Cds  
CENTER ON DISABILITY STUDIES

College of  
ENGINEERING  
UNIVERSITY OF HAWAI'I AT MĀNOA



University of Hawai'i at Mānoa  
CENTER ON AGING

iLAB  
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# Four Key Priority Areas

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- Ensure a Robust Statewide Health Workforce
- Discover & Innovate to Improve & Extend Lives
- Promote Healthier Families & Communities
- Advance Health in All Policies



# Workforce

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# Workforce

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- **Ensure a Robust Statewide Health Workforce**
  - Leverage the UH System—with its strong health sciences programs as well as faculty, staff, graduates, and students that provide health care services to the people of Hawai‘i and the Pacific—to address the state’s health care workforce and service needs to include a diverse workforce that reflects the ethnic makeup of our state.



# Highlights & Opportunities

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- **Healthcare Sector Partnership collaborations**
  - Align health industry needs with statewide educational training opportunities
  - Improve availability and affordability of clinical rotations
- **Strengthening UH Health Sciences training programs**
  - Increase class sizes where appropriate (i.e., JABSOM)
- **Improving pipeline of Hawai'i's students entering UH health sciences programs**
- **Expanding chronic disease care, access to care, and community health by pharmacists**





# Discovery & Innovation

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# Discovery & Innovation

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- **Discover & Innovate to Improve & Extend Lives**
  - Build on UH's legacy of high-quality, culturally-sensitive, successful research and innovation to improve and extend lives by discovering solutions to locally-relevant and world-changing problems, especially discoveries that aid Hawai'i's multi-ethnic population, communities indigenous to the Pacific, and the increasingly multi-cultural population of the continental United States.



# Highlights & Opportunities

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- Increase ability of UH health sciences programs to conduct high-level research on topics of importance to Hawai'i & nation
  - Seek opportunities for new faculty with strong NIH funding
  - Advance UH System-wide secure data enclave
- Improve health of Native Hawaiian/Pacific Islander communities
  - Focus on high-priority areas for NH/PI populations
- Innovation
  - Foster innovation/product development in natural products



# Healthier Families & Communities

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# Healthier Families & Communities

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- **Promote Healthier Families & Communities**
  - Champion prevention and wellness activities to improve community and population health; establish a Healthy Aging Initiative; address social and environmental determinants of health and tackle persistent health disparities, including in Native Hawaiian and Pacific Islander populations; and foster further global health engagement, especially in the Asia-Pacific region.



# Highlights & Opportunities

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- **Prevention and wellness**
  - Caring for our kūpuna through a new Healthy Aging Initiative
- **Addressing social determinants of health and health disparities**
  - Seek funds for endowed chairs in health disparities research
  - Partnerships with state agencies to improve public health
- **Fostering further global health engagement**
  - New UH System membership in Consortium of Universities on Global Health (CUGH)
  - Establish global health curriculum and global health track



# Advancing Health in All Policies

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# Advancing Health in All Policies

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- **Advance Health in All Policies**
  - Drive impactful health policy, and advance health in all policies, by applying UH's analytical and educational leadership to address pressing health policy and economic issues in Hawai'i, the Pacific, and nationwide.





# Highlights & Opportunities

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- **Research and Analytics**
  - Create Health Policy Institute
  - Build on All-Payer Claims Database work
- **Education and Training**
  - Training for health professionals about U.S. health policy
- **Policy Development**
  - Present policy proposals to legislature, stakeholders
- **Partnerships**
  - New “Health Policy Hui” to bring together interested health policy parties across the state



# Moving Forward

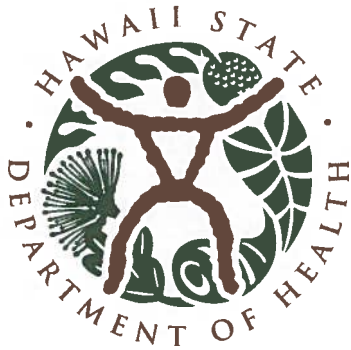
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# Community Partners to date



# Next Steps & Opportunities to Engage

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- Continue listening sessions with legislators and community members, increase partners
  - How can we collaborate to improve health and health care in Hawai'i together?
  - What excites you about this initiative? Other ideas?





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 Director of Health Science Policy, UH System  
 amgrac@hawaii.edu  
 Phone (808) 956-4800

**UH Healthy Hawaii**  
 UH's Commitment to a Healthier Hawaii and Pacific

- Ensure a Robust Statewide Health Care Workforce
- Discover and Innovate to Improve and Extend Lives
- Promote Healthier Families and Communities
- Advance Health in All Policies

**A Collaboration of University of Hawai'i Health Science Programs...**

**...and Our Community Partners**



**UH Healthy Hawaii**

UH's Commitment to a Healthier Hawaii and Pacific.

- Ensure a Robust Statewide Health Workforce**  
 Leverage the UH System - with its strong health careers programs as well as faculty, staff, graduates, and students that provide health care services to the people of Hawaii and the Pacific - to address the state's health care workforce and service needs to include a diverse workforce that reflects the ethnic makeup of our state.
- Discover and Innovate to Improve and Extend Lives**  
 Build on UH's legacy of high quality, culturally sensitive, evidence-based research and innovation to improve and extend lives by discovering solutions to locally relevant and world-changing problems, especially those that address the needs of our most vulnerable populations in the continental United States.
- Promote Healthier Families and Communities**  
 Champion prevention and wellness activities to improve community and population health, establish a Health Aging Initiative, address social and environmental determinants of health and family prevention health measures, including an Native Hawaiian and Pacific Islander populations better together global health programs, especially in the Asia Pacific region and promote healthy family relationships and social connections that support emotional well-being and resilience.
- Advance Health in All Policies**  
 Drive impactful health policy and advance health in all policies by applying UH's analytical and educational leadership to address pressing health policy and economic issues in Hawaii, the Pacific, and nationwide.

*E ola kākou!*



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# Next Steps & Opportunities to Engage, cont.

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- Work together on setting priorities
  - Advisory committee
- Establish preliminary budget and funding goals
- Seek funding
  - Federal
  - State
  - Private





# UH *healthy Hawaii*

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*E ola kākou!*

*Questions?*

*amgrace@hawaii.edu*



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# Strategic Research and Training Revolving Fund Investments

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BOR Committee on Research and Innovation  
February 19, 2019



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# Innovation Hub Investments

(\$ thousands)

Hubs	OVPRI	UHM OVCR	UHWO Chanc	Total
Ocean & Climate Science	100	1,207	6	1,313
Astronomy	1,028	618	0	1,646
Health & Wellness	845	1,468	4	2,317
Digital/Creative Media	0	21	8	29
Data Science & Engineering	146	1,213	39	1,398
Sustainable Communities	18	494	5	517
<b>SUBTOTAL</b>	<b>2,137</b>	<b>5,021</b>	<b>62</b>	<b>7,220</b>



# Other Investments & Total

(\$ thousands)

Hubs	OVPRI	UHM OVCR	UHWO Chanc	Total
SUBTOTAL FROM SLIDE 2	2,137	5,021	62	7,220
OTHER INVESTMENTS				
Innovation & Entrepreneurship	880	0	52	932
Facilities	1,244	2,890	0	4,134
Research Support	922	714	278	1,914
Student Research	0	180	0	180
SUBTOTAL OTHER INVESTMENTS	3,046	3,784	330	7,160
GRAND TOTAL	5,183	8,805	392	14,380

