

Notice of Meeting

UNIVERSITY OF HAWAI'I

BOARD OF REGENTS COMMITTEE ON RESEARCH AND INNOVATION

Members: Regent Eugene Bal (Chair), Regent Stanford Yuen (Vice Chair), and Regents Higa, Putnam, Shinsato, Tagorda, and Wilson

Date: Wednesday, February 7, 2018

Time: 10:30 a.m.

Place: University of Hawai'i at Mānoa
Information Technology Building
1st Floor Conference Room 105A/B
2520 Correa Road
Honolulu, Hawai'i 96822

AGENDA

I. Call Meeting to Order

II. Approval of Minutes of the November 1, 2017 Meeting

III. 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, 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.

IV. Agenda Items

A. For Information & Discussion

1. FY18 Q2 Extramural Awards Report
2. Update on Act 38 & Act 39 Session Laws of Hawai'i 2017
3. Applied Research at the University of Hawai'i
4. Update on Research & Innovation Long Range Plan Progress – UH West O'ahu presentation
5. Strategic Research & Innovation/Hawai'i Innovation Initiative Metrics

V. Adjournment



UNIVERSITY OF HAWAII
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Office of the Vice President for Research and Innovation

DTS # 18705

18 FEB -1 P12:23

RECEIVED

18 FEB -1 P1:25

January 30, 2018

UNIVERSITY OF HAWAII
 PRESIDENT'S OFFICE

MEMORANDUM

TO: Eugene Bal III, 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 2018 MEETING**

Please find attached the following materials that will be discussed at the February 7, 2018 BOR Committee on Research and Innovation meeting:

A. For Information & Discussion:

1. FY18 Q2 Extramural Awards Analysis (VPRI presentation)
 - a. FY18 Q2 Extramural Awards Analysis Report
 - b. FY18 Q2 Research and Innovation Metrics Summary
 - c. FY18 Monthly Report of Extramural Awards (as of December 31, 2017)
2. Update on Act 38 and Act 39 Session Laws of Hawai'i 2017 (VPRI presentation)
3. Applied Research at the University of Hawai'i (VPRI presentation)
4. Update on Research & Innovation Long Range Plan Progress – UH West O'ahu presentation (UHWO Chancellor presentation)

Attachments

FY18 Q2 Extramural Award Analysis

BOR Research & Innovation Committee Meeting
February 7, 2018



Overview

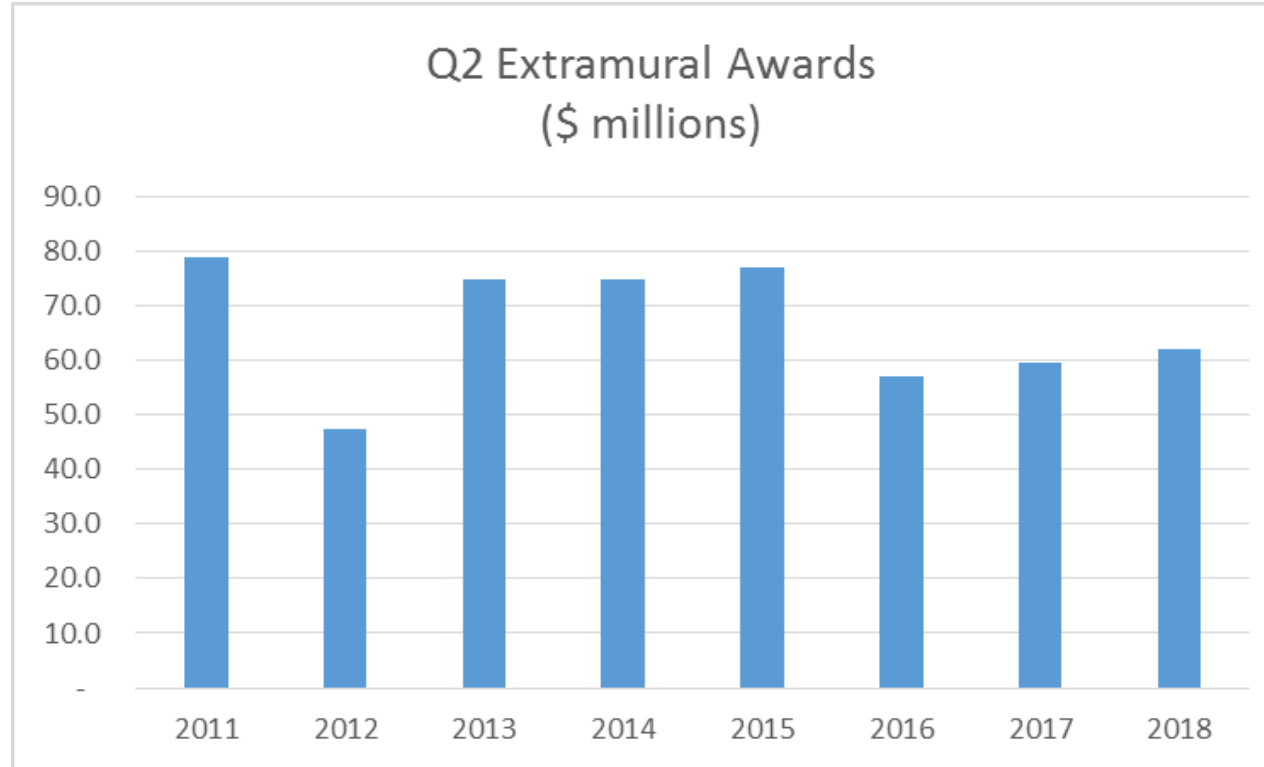
- FY18 Q2 Recap
- Significant Awards by Campus
- Award Amounts by Location
- Actuals vs. Forecasts and Targets



FY18 Q2 Recap

- FY18 Q2 total is \$62.0 million, 4.3% more than FY17 Q2 (\$59.5 million)
- Typical Q2 performance compared to FY16 and FY17





Quarterly Extramural Awards \$ millions

	2011	2012	2013	2014	2015	2016	2017	2018
Q1	251.5	203.2	178.1	166.5	191.1	165.8	181.8	164.5
Q2	78.8	47.5	74.8	74.7	77.0	56.9	59.5	62.0
Q3	68.8	45.3	56.7	55.4	52.8	66.2	67.1	--
Q4	89.5	139.9	100.1	95.7	104.8	102.4	78.6	--
FY	488.6	435.9	409.8	392.3	425.7	391.3	387.0	226.5



FY18 Q2 Significant Awards by Campus

Campus	Sponsor Type	Sponsor	Project Title	Amount
Mānoa	Federal	National Institutes of Health	Ola Hawaii	4,849,098
Hilo	State and Local	Department of Defense	Functional Trait-Based Restoration: Enhancing Carbon Storage, Native Biodiversity, and Human Mobility and Cyrtandra nanawaleensis Recovery Plan Assistance at the Keaukaha Military Reservation (KMR)	177,017
West O'ahu	Federal	Department of Education	UHWO Gear Up	502,546
Hawai'i CC	State and Local	Department of Education	2018 Child Care Food Program	13,750
Honolulu CC	Business	Alu Like, Inc.	Poi Na Nalu NHCTEP	303,053
Kapi'olani CC	Business	Alu Like, Inc.	Native Hawaiian Career & Technical Education Project, Kapi'olani Community College, Kulia ma Kapi'olani	273,683
Kaua'i CC	N/A	N/A	N/A	N/A
Leeward CC	Business	Alu Like, Inc.	Leeward Community College PY 17-18 (Year 5) Ho'oulu Project	244,209
Maui College	State and Local	Kahoolawe Island Reserve Commission	KIRC - Hui Kapehe Internship Program 2014-2017	58,680
Windward CC	Nonprofit	UH Foundation	Hi'ilei Early College Education Initiative	523,699
UH System	Federal	National Science Foundation	EPSCoR RII Track 1: Ike Wai: Insuring Hawaii's Water Future	3,633,000



Q2 Amounts by Location (\$ millions)

Campus	2015	2016	2017	2018	2018-17 Change
Mānoa	50.1	51.6	42.4	53.9	27.3%
Hilo	4.9	0.9	1.3	0.9	-33.8%
West O'ahu	0.0	0.0	0.0	0.6	
Hawai'i CC	(0.4)	0.1	0.1	0.0	-79.1%
Honolulu CC	0.8	0.4	0.4	0.3	-25.3%
Kapi'olani CC	0.5	0.0	0.1	0.5	767.7%
Kaua'i CC	0.0	0.0	0.0	0.0	0.0%
Leeward CC	0.4	0.0	0.2	0.0	-99.0%
Maui College	11.3	0.7	2.5	0.1	-95.9%
Windward CC	0.2	0.5	0.8	0.5	-29.6%
UH System	9.2	3.0	11.8	5.1	-56.5%
TOTAL	77.0	57.2	59.5	62.0	4.3%



Major Changes by Location

- UH Mānoa

- Awards between \$500,000 and \$999,999: 12 more awards in FY18 Q2 compared to FY17 Q2; Represents \$7.7 million increase. However, \$2.0 million is attributed to timing.
- Awards of \$1.0 million or more: Attributed to the \$4.8 million NIH grant.



Selected Q1 + FY18 Q2 UHM Comparisons

School/Unit	Q1+Q217	Q1+Q218	\$ Change	% Change
Institute for Astronomy	7,299,544	8,307,301	1,007,757	13.8%
John A Burns School of Medicine	38,900,660	28,169,255	(10,731,405)	-27.6%
School of Ocean, Earth Science and Technology	45,224,573	52,144,547	6,919,974	15.3%
UH Cancer Center	21,470,668	12,556,926	(8,913,742)	-41.5%



Major Changes by Location

- UH West O‘ahu
 - There were no awards in FY17 Q2 compared to FY18 Q2.
- UH Maui College
 - Awards of \$1.0 million or more: There were no awards of \$1.0 million or more in FY18 Q2 compared to \$1.8 million in FY17 Q2.



Major Changes by Location

- UH System

- Awards of \$1 million or more: The Applied Research Laboratory had \$5.0 million more in awards in FY17 Q2 compared to FY18 Q2.



Actuals vs. Forecasts and Targets

- Overall results for FY18 Q2 were about \$11.9 million short or -16.1% of forecast and -27.7% of target.
- So far only UH West O‘ahu and UH Community Colleges have surpassed expectations.



OVERALL

FY 2018	Forecast	Target	Actual	Forecast Variance	Target Variance
Q1	175.1	204.9	164.5	-6.1%	-19.7%
Q2	73.9	85.7	62.0	-16.1%	-27.7%
Total	249.0	290.6	226.5	-19.0%	-22.1%

UH Mānoa

FY 2018	Forecast	Target	Actual	Forecast Variance	Target Variance
Q1	136.1	159.4	112.6	-17.3%	-29.4%
Q2	57.6	66.7	53.9	-6.4%	-19.2%
Total	193.7	226.1	166.5	-14.0%	-26.4%

UH Hilo

FY 2018	Forecast	Target	Actual	Forecast Variance	Target Variance
Q1	10.1	11.8	7.5	-25.7%	-36.4%
Q2	4.2	4.9	0.9	-78.6%	-81.6%
Total	14.3	16.7	8.4	-41.3%	-49.7%



UH West O'ahu

FY 2018	Forecast	Target	Actual	Forecast Variance	Target Variance
Q1	0.8	0.9	5.1	400.0%	400.0%
Q2	0.3	0.4	0.6	100.0%	50.0%
Total	1.1	1.3	5.7	418.2%	338.5%

UH Community Colleges

FY 2018	Forecast	Target	Actual	Forecast Variance	Target Variance
Q1	9.1	10.6	24.5	169.2%	131.1%
Q2	3.8	4.4	1.5	-60.5%	-65.9%
Total	12.9	15.0	26.0	101.6%	73.3%

UH System

FY 2018	Forecast	Target	Actual	Forecast Variance	Target Variance
Q1	19.0	22.2	14.8	-21.1%	-33.3%
Q2	8.0	9.3	5.1	-36.3%	-45.2%
Total	27.0	31.5	19.9	-26.3%	-36.8%



Extramural Awards FY18 Q2 Report

I. Summary

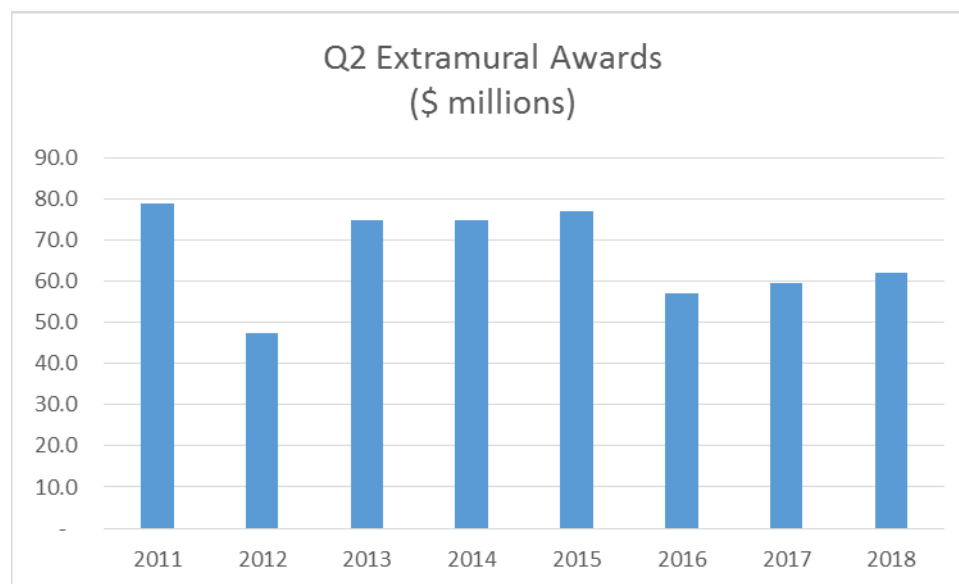
Awards for the second quarter of FY18 were \$62 million which was around \$2.5 million more than FY17 Q2 (a 4.3% increase). Although an improvement over the comparable quarter, it is 16.1% short of the forecast, and 27.7% short of the target for FY18 Q2. It was a typical Q2 compared to FY16 and FY17. The remainder of FY 2018 may reflect stable year-to-year results than explosive growth.

II. Quarterly Performance Metrics

Awards for FY18 Q2 were around \$2.5 million more than FY17 Q2 (a 4.3% increase). Based on two quarters, it appears FY18 is tracking FY16.

Quarterly Extramural Awards
\$ millions

	2011	2012	2013	2014	2015	2016	2017	2018
Q1	251.5	203.2	178.1	166.5	191.1	165.8	181.8	164.5
Q2	78.8	47.5	74.8	74.7	77.0	56.9	59.5	62.0
Q3	68.8	45.3	56.7	55.4	52.8	66.2	67.1	--
Q4	89.5	139.9	100.1	95.7	104.8	102.4	78.6	--
FY	488.6	435.9	409.8	392.3	425.7	391.3	387.0	226.5



III. Significant Awards by Campus

During FY18 Q2, the University of Hawai'i (UH) received 357 awards from 163 different sponsors. The following table reports the largest awards received this quarter by campus. Performance was typical for the period with many "large awards" less than \$500,000.

Campus	Sponsor Type	Sponsor	Project Title	Amount
Mānoa	Federal	National Institutes of Health	Ola Hawai'i	4,849,098
Hilo	State and Local	Department of Defense	Functional Trait-Based Restoration: Enhancing Carbon Storage, Native Biodiversity, and Human Mobility and Cyrtandra nanawaleensis Recovery Plan Assistance at the Keaukaha Military Reservation (KMR)	177,017
West O'ahu	Federal	Department of Education	UHWO Gear Up	502,546
Hawai'i CC	State and Local	Department of Education	2018 Child Care Food Program	13,750
Honolulu CC	Business	Alu Like, Inc.	Poi Na Nalu NHCTEP	303,053
Kapi'olani CC	Business	Alu Like, Inc.	Native Hawaiian Career & Technical Education Project, Kapi'olani Community College, Kulia ma Kapi'olani	273,683
Kaua'i CC	N/A	N/A	N/A	N/A
Leeward CC	Business	Alu Like, Inc.	Leeward Community College PY 17-18 (Year 5) Ho'oulu Project	244,209
Maui College	State and Local	Kahoolawe Island Reserve Commission	KIRC - Hui Kapehe Internship Program 2014-2017	58,680
Windward CC	Nonprofit	UH Foundation	Hi'ilei Early College Education Initiative	523,699
UH System ¹	Federal	National Science Foundation	EPSCoR RII Track 1: Ike Wai: Insuring Hawaii's Water Future	3,633,000

Of the large awards over \$1 million, the National Science Foundation (NSF) Established Program to Stimulate Competitive Research (EPSCoR) award for \$3.6 million is provided through incremental funding. The National Institutes of Health (NIH) award of \$4.8 million is initial funding for a new \$23.1 million grant.

¹ 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

Although nearly every campus had a FY18 Q2 vs. FY17 Q2 change, only four campuses had substantial dollar value changes:

- 1) UH Mānoa = \$11.6 million increase
- 2) UH West O‘ahu = \$623,746 increase
- 3) UH Maui College = \$2.4 million decrease
- 4) UH System = \$6.6 million decrease.

Q2 Award Amounts by Location \$ millions (rounded)

Campus	2015	2016	2017	2018	2018-17 Change ²
Mānoa	50.1	51.6	42.4	53.9	27.3%
Hilo	4.9	0.9	1.3	0.9	-33.8%
West O‘ahu	0.0	0.0	0.0	0.6	
Hawai‘i CC	(0.4)	0.1	0.1	0.0	-79.1%
Honolulu CC	0.8	0.4	0.4	0.3	-25.3%
Kapi‘olani CC	0.5	0.0	0.1	0.5	767.7%
Kaua‘i CC	0.0	0.0	0.0	0.0	0.0%
Leeward CC	0.4	0.0	0.2	0.0	-99.0%
Maui College	11.3	0.7	2.5	0.1	-95.9%
Windward CC	0.2	0.5	0.8	0.5	-29.6%
UH System	9.2	3.0	11.8	5.1	-56.5%
TOTAL	77.0	57.2	59.5	62.0	4.3%

Quarterly Analysis

Major dollar increases and decreases are attributed as follows:

UH Mānoa

- Awards between \$500,000 and \$999,999: There were 12 more awards in FY18 Q2 compared to FY17 Q2 that accounted for a \$7.7 million increase. However, about \$2 million of that amount can be attributed to timing (i.e., they were received in a different quarter than FY17).
- Awards of \$1 million or more: Attributed to the \$4.8 million NIH grant.

UH West O‘ahu

- There were no awards in FY17 Q2 compared to FY18 Q2.

UH Maui College

- Awards of \$1 million or more: There were no awards of \$1 million or more in FY18 Q2 compared to \$1.8 million in FY17 Q2.

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

UH System

- Awards of \$1 million or more: The Applied Research Laboratory (ARL) had \$5 million more in awards in FY17 Q2 compared to FY18 Q2.

Year-to-Date Analysis

Year-to-date, UH Mānoa and UH System have the largest dollar decreases (\$5.2 million and \$6.7 million respectively).

Campus Group	Q1+Q2 FY 2017	Q1+Q2 FY 2018	Difference
UH Mānoa	173,457,431	168,275,073	(5,182,358)
UH Hilo	7,385,028	8,380,413	995,385
UH West O’ahu	5,381,172	5,774,403	393,321
UH Community Colleges	27,008,788	26,354,332	(654,456)
UH System	28,620,143	21,936,898	(6,683,245)
TOTAL	241,852,562	230,721,119	(11,131,443)

The following observations were made for selected units and campuses:

UH Mānoa

School/Unit	Q1+FY17 Q2	Q1+FY18 Q2	Difference
John A Burns School of Medicine (JABSOM)	38.9m	27.2m	-11.7m
School of Ocean, Earth Science and Technology (SOEST)	44.9m	51.9m	+7.0m
UH Cancer Center	21.3m	12.6m	-8.7m

- JABSOM: In FY17, there were two large salary and fringe agreements totaling \$6.8 million for the period FY17 – FY19. FY18 may be between cycles for such large salary and fringe agreements. In addition, in FY17 there were two NIH increments totaling \$3.3 million. There are additional increments forthcoming on those NIH awards, so there might be timing issues in FY18.
- SOEST: In FY18, there were two funding increments totaling \$4.5 million, which is around \$3.7 million more than the FY17 increments. There was a \$2 million increment for a new multi-year award and a one-year award for \$1.7 million.
- UH Cancer Center: Compared to FY18, FY17 had three large clinical trial agreements totaling \$7.4 million.

UH System

- Compared to FY18, there was a \$5.0 million Kamehameha Schools award in FY17.
- In FY17, the Pacific Disaster Center had \$8.0 million in incremental funding to date compared to \$5.3 million in FY18, which could be due to timing issues.
- In addition, UH was awarded an 18-month, \$9.9 million award via the Applied Research Laboratory, but it has only been incrementally funded at \$2.6 million so far.

V. Forecast vs. Actuals

Overall results were about \$11.9 million short (or -16.1%) of forecast and -27.7% of target. Beginning with the FY18 Q2 report, we will track results by campus. So far only UH West O'ahu and UH Community Colleges have surpassed expectations.

OVERALL

FY 2018	Forecast	Target	Actual	Forecast Variance	Target Variance
Q1	175.1	204.9	164.5	-6.1%	-19.7%
Q2	73.9	85.7	62.0	-16.1%	-27.7%
Total	249.0	290.6	226.5	-19.0%	-22.1%

UH Mānoa

FY 2018	Forecast	Target	Actual	Forecast Variance	Target Variance
Q1	136.1	159.4	112.6	-17.3%	-29.4%
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UH Hilo

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Total	14.3	16.7	8.4	-41.3%	-49.7%

UH West O'ahu

FY 2018	Forecast	Target	Actual	Forecast Variance	Target Variance
Q1	0.8	0.9	5.1	400.0%	400.0%
Q2	0.3	0.4	0.6	100.0%	50.0%
Total	1.1	1.3	5.7	418.2%	338.5%

UH Community Colleges

FY 2018	Forecast	Target	Actual	Forecast Variance	Target Variance
Q1	9.1	10.6	24.5	169.2%	131.1%
Q2	3.8	4.4	1.5	-60.5%	-65.9%
Total	12.9	15.0	26.0	101.6%	73.3%

UH System

FY 2018	Forecast	Target	Actual	Forecast Variance	Target Variance
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Q2	8.0	9.3	5.1	-36.3%	-45.2%
Total	27.0	31.5	19.9	-26.3%	-36.8%

Extramural Sponsor Awards Quarterly Summary

<u>Program Type</u>	Oct 1 - Dec 31 2017		Oct 1 - Dec 31 2016	
	<u>Count</u>	<u>Amount</u>	<u>Count</u>	<u>Amount</u>
Research	196	\$ 36,479,348	240	\$ 39,437,891
Non-Research	161	\$ 27,560,011	147	\$ 20,770,168
<u>Total</u>	<u>357</u>	<u>\$ 64,039,359</u>	<u>387</u>	<u>\$ 60,208,059</u>

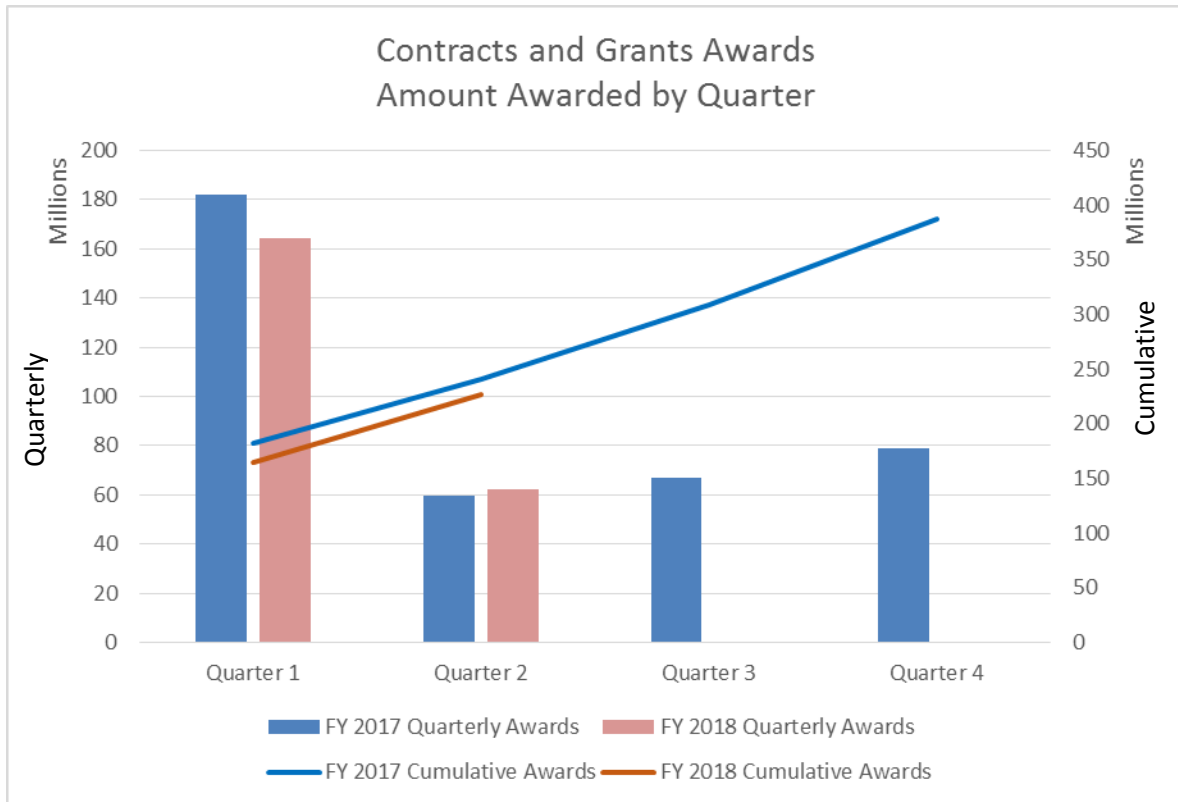
Note: The detailed award listing is available at:

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

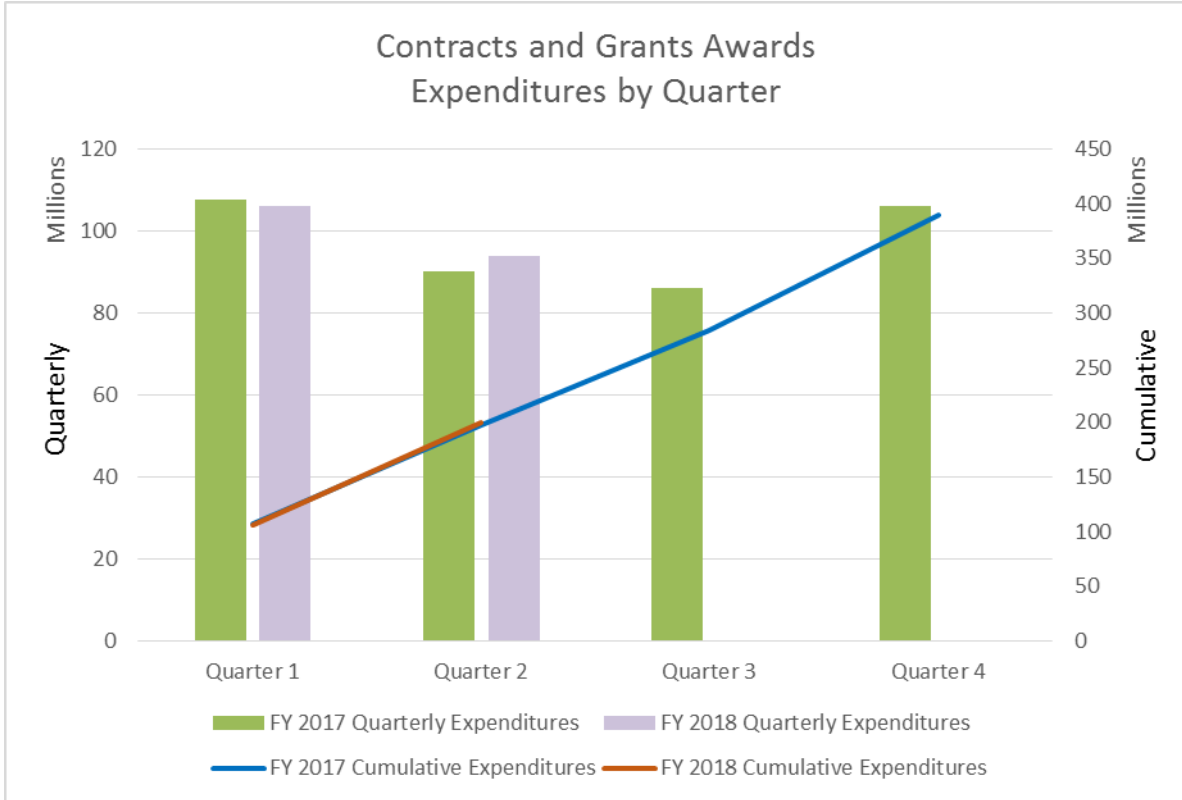
The FY 2017 year-to-date total was: \$241,295,427

The unofficial FY 2018 year-to-date total is: 1,039 awards totaling \$226,515,857.

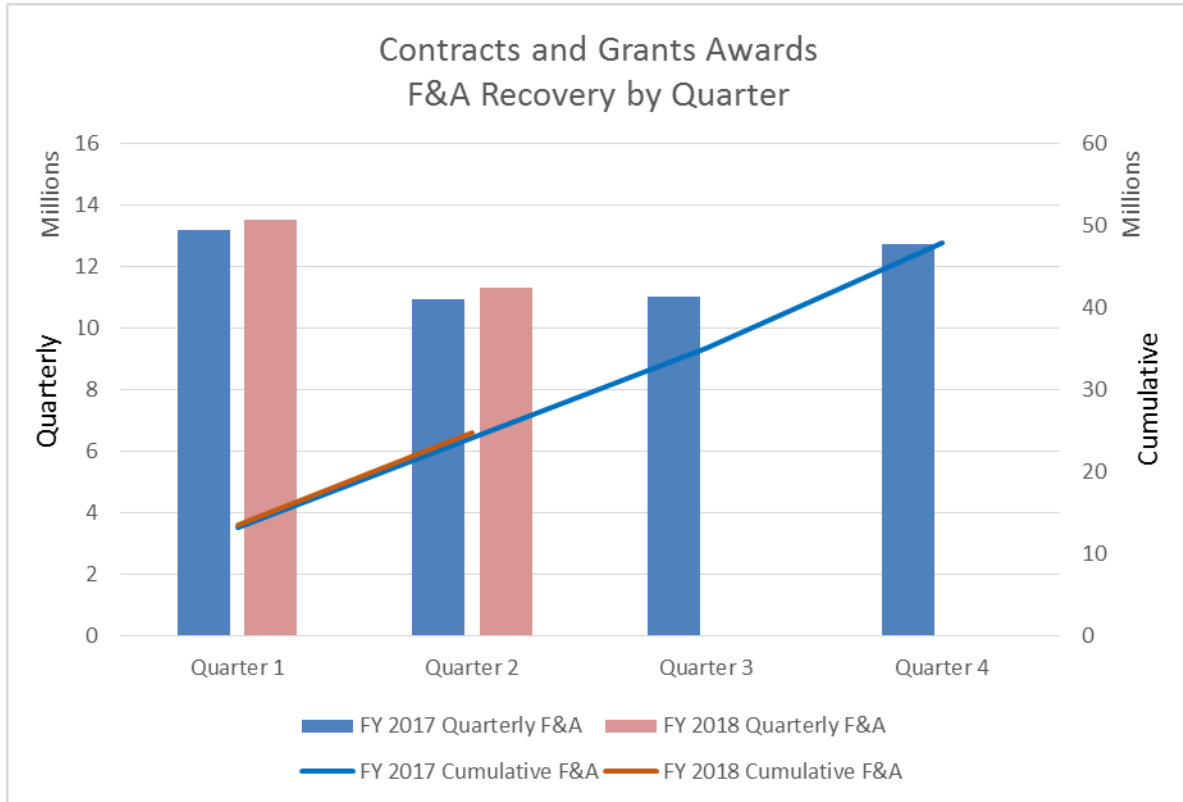
Contracts and Grants Awards
As of Quarter Two – FY 2018



Contracts and Grants Expenditures
As of Quarter Two – FY 2018



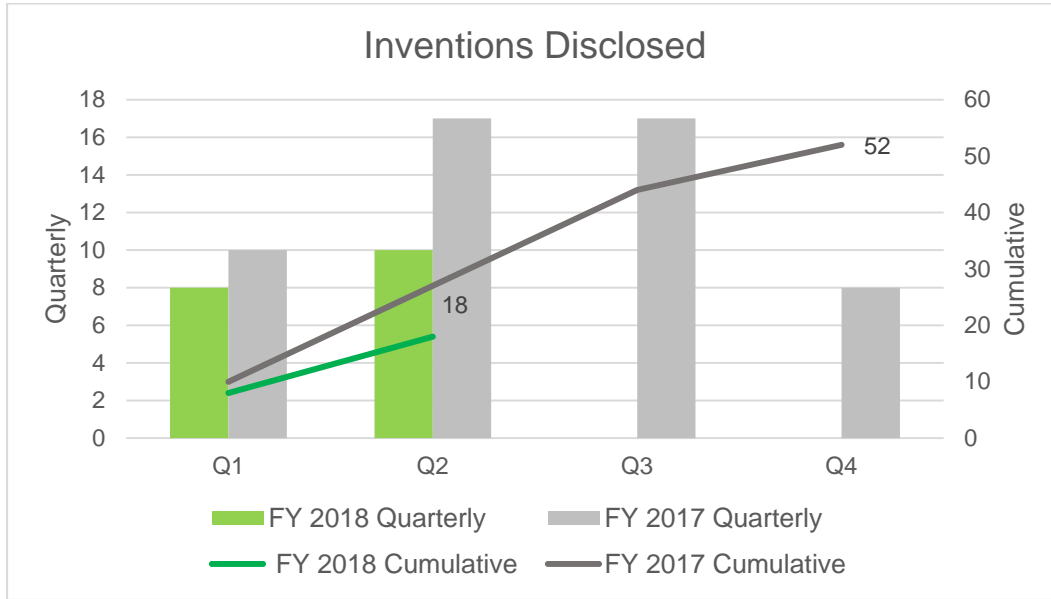
Contracts and Grants F&A Recovery
As of Quarter Two – FY 2018



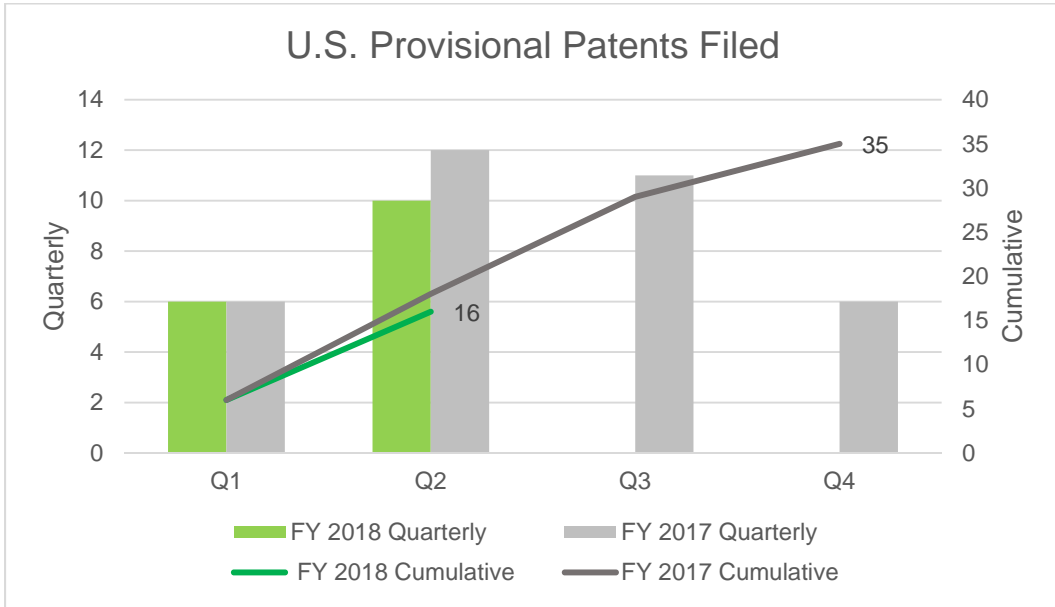
**OTT Research & Innovation Metrics
FY 2018 – Second Quarter Summary**

<u>Metric</u>	FY 2018	FY 2017
	<u>10/1/17 – 12/31/17</u>	<u>10/1/16 – 12/31/16</u>
Invention Disclosures	10	17
U.S. Provisional Patents Filed	10	12
U.S. Non-Provisional Patents Filed	4	2
U.S. Non-Provisional Patents Issued	4	0
License Agreements	2	2
Royalty Revenue	\$61,965.89	\$58,800.23

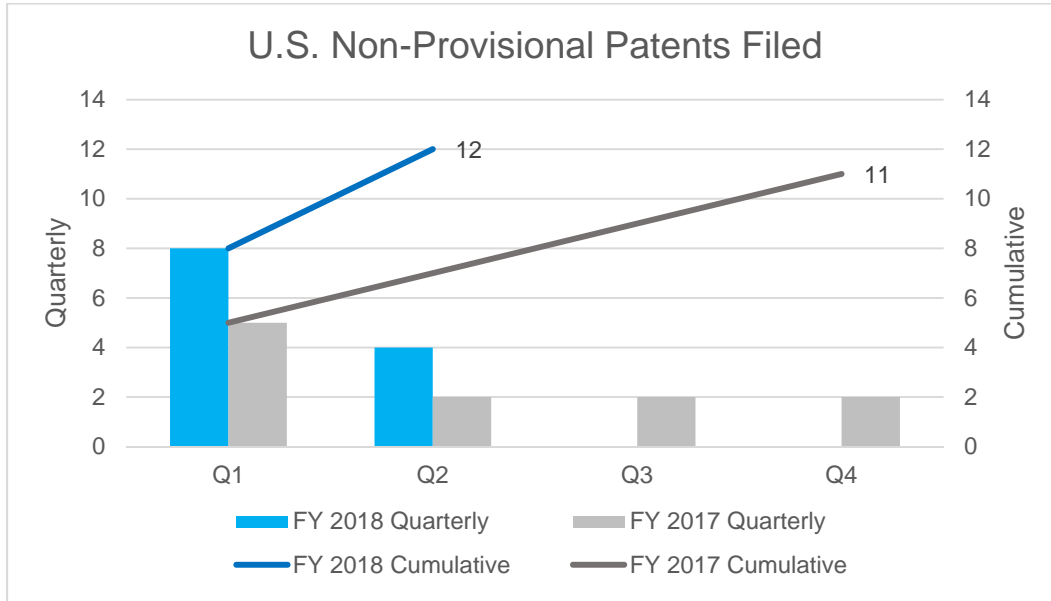
Invention Disclosures
As of Quarter Two – FY 2018



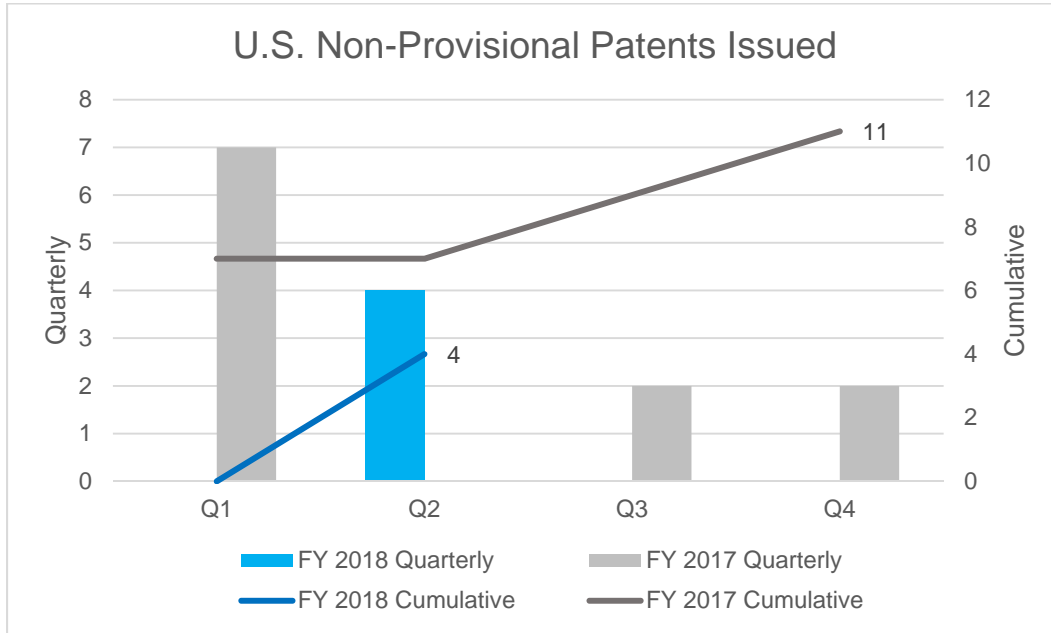
U.S. Provisional Patents Filed
As of Quarter Two – FY 2018



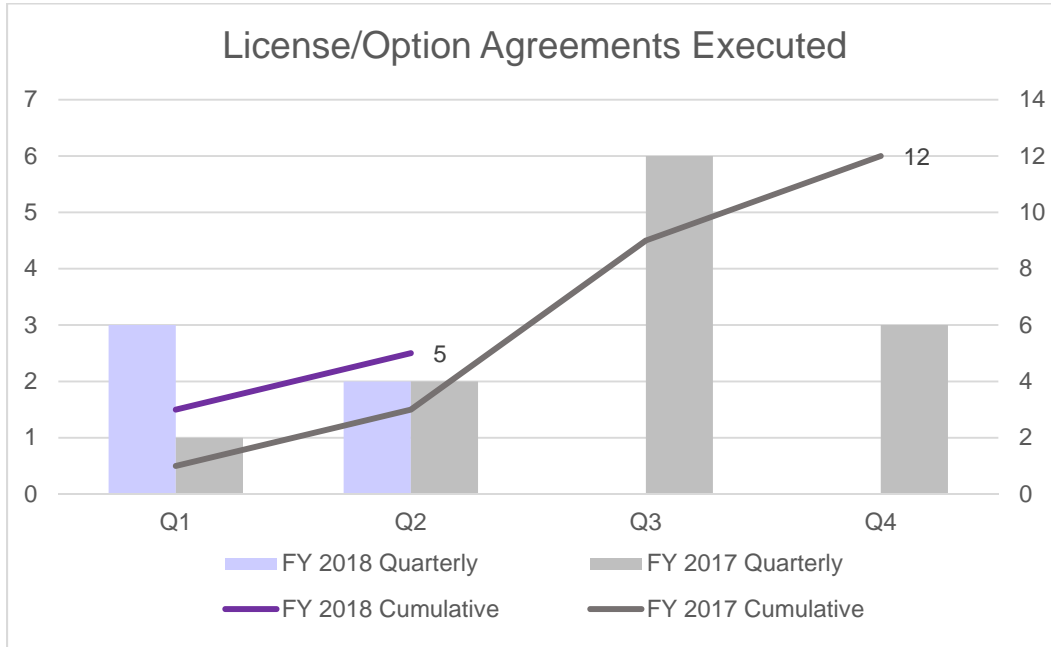
U.S. Non-Provisional Patents Filed
As of Quarter Two – FY 2018



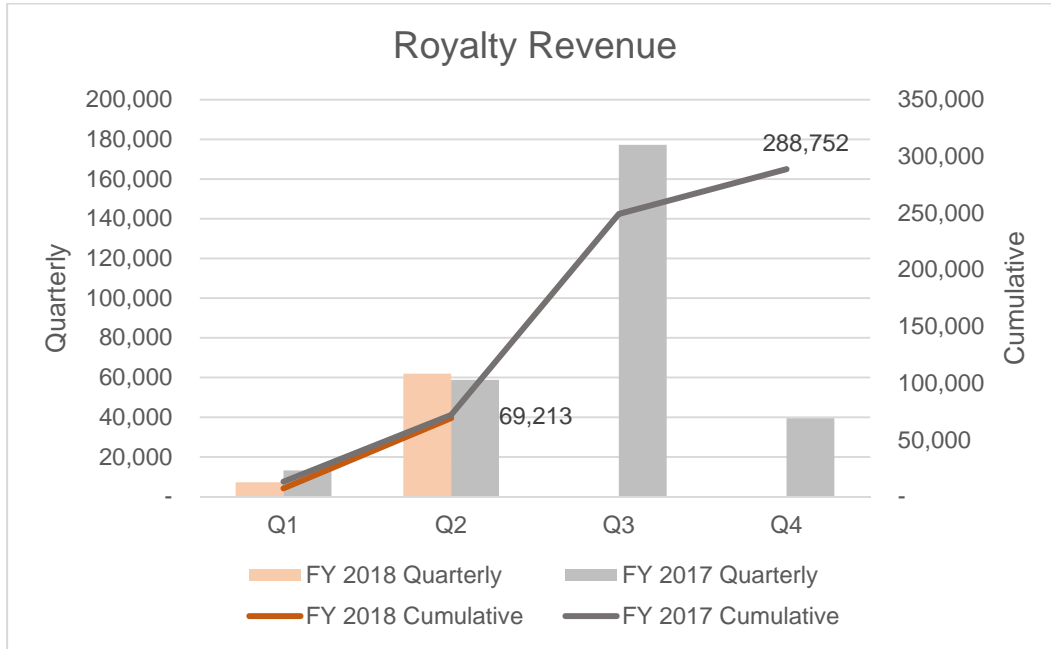
U.S. Non-Provisional Patents Issued
As of Quarter Two – FY 2018



License/Option Agreements
As of Quarter Two – FY 2018



Royalty Revenue
As of Quarter Two – FY 2018



FY 2018 Monthly Report of Awards to Date as of December 31, 2017						
Summary By Campus						
Campus	FY 2017		FY 2018		\$ Change	% Change
	Award Count	Award Amount	Award Count	Award Amount		
Hawai'i Community College	3	110,697	4	448,669	337,972	305.3%
Honolulu Community College	9	2,561,005	6	1,294,220	(1,266,785)	-49.5%
Kapi'olani Community College	10	4,776,234	11	4,229,453	(546,781)	-11.4%
Kaua'i Community College	6	1,976,851	3	877,867	(1,098,984)	-55.6%
Leeward Community College	7	3,848,346	5	3,251,986	(596,360)	-15.5%
University of Hawai'i Maui College	17	6,427,610	24	9,835,431	3,407,821	53.0%
Windward Community College	19	7,308,045	15	6,416,706	(891,339)	-12.2%
Subtotal Community Colleges and UH Maui College	71	27,008,788	68	26,354,332	(654,456)	-2.4%
University of Hawai'i at Hilo	73	7,385,028	79	8,380,413	995,385	13.5%
University of Hawai'i at Manoa	851	173,457,431	838	168,275,073	(5,182,358)	-3.0%
University of Hawai'i at West O'ahu	10	5,381,172	17	5,774,403	393,231	7.3%
University of Hawai'i System	39	28,620,143	37	21,936,898	(6,683,245)	-23.4%
Grand Total	1,044	241,852,562	1,039	230,721,119	(11,131,443)	-4.6%
FY 2018 Monthly Report of Awards to Date as of December 31, 2017						
Campus Details						
Campus	FY 2017		FY 2018		\$ Change	% Change
	Award Count	Award Amount	Award Count	Award Amount		
Hawai'i Community College	3	110,697	4	448,669	337,972	305.3%
Chancellor, Hawaii Community College	3	110,697	4	448,669	337,972	305.3%
Academic Affairs (Hawaii CC)	-	-	2	384,919	384,919	100.0%
Liberal Arts and Public Services	-	-	1	13,750	13,750	100.0%
Office of Continuing Education & Training	2	65,897	1	50,000	(15,897)	-24.1%
UH Center at West Hawai'i	1	44,800	-	-	(44,800)	-100.0%
Honolulu Community College	9	2,561,005	6	1,294,220	(1,266,785)	-49.5%
Chancellor, Honolulu Community College	9	2,561,005	6	1,294,220	(1,266,785)	-49.5%
Academic Affairs (Honolulu CC)	1	486,303	1	576,039	89,736	18.5%
Chancellor, Honolulu Community College	2	267,198	2	325,128	57,930	21.7%
Early Childhood (Honolulu CC)	1	40,000	1	40,000	-	0.0%
Natural Sciences	2	1,318,891	-	-	(1,318,891)	-100.0%
Pacific Center for Advanced Technology Training	2	145,560	-	-	(145,560)	-100.0%
University College	1	303,053	2	353,053	50,000	16.5%
Kapi'olani Community College	10	4,776,234	11	4,229,453	(546,781)	-11.4%
Chancellor, Kapiolani Community College	10	4,776,234	11	4,229,453	(546,781)	-11.4%
Academic Affairs (KCC)	1	494,973	-	-	(494,973)	-100.0%
Arts and Sciences Academic Program	1	999,997	-	-	(999,997)	-100.0%
Chancellor, Kapiolani Community College	2	2,716,971	3	2,841,211	124,240	4.6%
Continuing Education / Non-Credit Program	1	64,749	-	-	(64,749)	-100.0%
Culinary Arts (KCC)	1	14,994	2	132,756	117,762	785.4%
Emergency Medical Services	1	149,480	2	399,480	250,000	167.2%
Emergency Medical Technician	-	-	1	240,000	240,000	100.0%
Math and Science	1	60,350	-	-	(60,350)	-100.0%
Office for Institutional Effectiveness	-	-	1	2,000	2,000	100.0%
Office of International Affairs	1	1,037	-	-	(1,037)	-100.0%
Student Support Services	1	273,683	2	614,006	340,323	124.3%
Kaua'i Community College	6	1,976,851	3	877,867	(1,098,984)	-55.6%
Chancellor, Kauai Community College	6	1,976,851	3	877,867	(1,098,984)	-55.6%
Chancellor, Kauai Community College	6	1,976,851	3	877,867	(1,098,984)	-55.6%
Leeward Community College	7	3,848,346	5	3,251,986	(596,360)	-15.5%
Chancellor, Leeward Community College	7	3,848,346	5	3,251,986	(596,360)	-15.5%
Chancellor, Leeward Community College	7	3,848,346	5	3,251,986	(596,360)	-15.5%
University of Hawai'i at Hilo	73	7,385,028	79	8,380,413	995,385	13.5%
Chancellor, UH Hilo	4	932,140	4	1,683,215	751,075	80.6%
Chancellor, UH Hilo	4	932,140	4	1,683,215	751,075	80.6%
College of Agriculture, Forestry and Natural Resource Mgt	10	1,222,293	9	556,013	(666,280)	-54.5%
College of Agriculture, Forestry and Natural Resource Mgt	5	881,057	5	279,454	(601,603)	-68.3%
Pacific Aquaculture and Coastal Resources Ctr	5	341,236	4	276,559	(64,677)	-19.0%
College of Arts and Sciences	19	2,121,998	16	1,495,966	(626,032)	-29.5%
Anthropology (UH Hilo)	1	3,260	-	-	(3,260)	-100.0%
Biology (UH Hilo)	3	176,904	4	280,803	103,899	58.7%
College of Arts and Sciences	1	275,000	1	300,000	25,000	9.1%
Geography (UH Hilo)	2	18,385	2	208,795	190,410	1035.7%
Marine Science	-	-	1	24,373	24,373	100.0%
Mathematics (UH Hilo)	-	-	1	7,000	7,000	100.0%
Natural Sciences Division	10	1,591,388	5	479,483	(1,111,905)	-69.9%
Physics and Astronomy	-	-	1	95,512	95,512	100.0%
School of Nursing	1	7,061	-	-	(7,061)	-100.0%
Social Sciences Division	1	50,000	1	100,000	50,000	100.0%
College of Continuing Education and Community Svc	1	18,000	2	67,750	49,750	276.4%
College of Continuing Education and Community Svc	1	18,000	2	67,750	49,750	276.4%
College of Pharmacy	6	487,217	5	123,660	(363,557)	-74.6%
College of Pharmacy	2	34,770	2	36,260	1,490	4.3%
Pharmaceutical Sciences	3	437,922	2	47,400	(390,522)	-89.2%
Pharmacy Practice	1	14,525	1	40,000	25,475	175.4%
Hawaii Small Business Development Center	2	87,050	1	100,000	12,950	14.9%
Hawaii Small Business Development Center	2	87,050	1	100,000	12,950	14.9%

Imiloa Astronomy Center Of Hawaii	5	338,118	7	407,134	69,016	20.4%
Imiloa Astronomy Center Of Hawaii	5	338,118	7	407,134	69,016	20.4%
Ka Haka'Ula O Ke'Elikolani-UHH	5	477,516	3	1,574,437	1,096,921	229.7%
Hale Kuamo'o Center	-	-	1	634,437	634,437	100.0%
Ka Haka'Ula O Ke'Elikolani-UHH	5	477,516	2	940,000	462,484	96.9%
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	2,250	100.0%
Vice Chancellor for Administrative Affairs	-	-	1	2,250	2,250	100.0%
Vice Chancellor for Research	14	618,463	20	1,221,248	602,785	97.5%
Vice Chancellor for Research	14	618,463	20	1,221,248	602,785	97.5%
Vice Chancellor for Student Affairs	7	1,082,233	10	1,091,740	9,507	0.9%
Center For Gifted And Talented Native Hawaiian Children	2	7,250	1	44,800	37,550	517.9%
Upward Bound	3	772,500	-	-	(772,500)	-100.0%
Vice Chancellor for Student Affairs	2	302,483	9	1,046,940	744,457	246.1%
University of Hawai'i at Manoa	851	173,457,431	838	168,275,073	(5,182,358)	-3.0%
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	4	286,063	9	340,325	54,262	19.0%
American Studies	-	-	2	104,618	104,618	100.0%
History (UH Manoa)	-	-	1	52,777	52,777	100.0%
Music (UH Manoa)	-	-	1	5,930	5,930	100.0%
Philosophy (UH Manoa)	1	255,818	2	160,000	(95,818)	-37.5%
Theatre and Dance	2	8,245	-	-	(8,245)	-100.0%
UHM Uehiro Academy for Philosophy and Ethics in Education	1	22,000	3	17,000	(5,000)	-22.7%
College of Education	36	8,866,355	39	7,541,003	(1,325,352)	-14.9%
Center on Disability Studies/University Affiliated Pgms	19	5,887,953	17	3,994,306	(1,893,647)	-32.2%
College of Education	3	304,417	4	865,975	561,558	184.5%
Curriculum Research and Development Group	8	1,988,903	8	1,276,302	(712,601)	-35.8%
Department of Curriculum Studies	1	62,754	1	66,534	3,780	6.0%
Department of Educational Psychology	2	83,722	-	-	(83,722)	-100.0%
Department of Kinesiology and Rehabilitation Science	2	305,510	6	429,481	123,971	40.6%
Department of Special Education	1	233,096	2	498,074	264,978	113.7%
Institute for Teacher Education	-	-	1	410,331	410,331	100.0%
College of Engineering	21	2,082,634	17	2,299,986	217,352	10.4%
Civil and Environmental Engineering	6	599,143	9	1,300,682	701,539	117.1%
College of Engineering	1	494,802	3	769,160	274,358	55.4%
Electrical Engineering	10	649,640	2	97,144	(552,496)	-85.0%
Mechanical Engineering	4	339,049	3	133,000	(206,049)	-60.8%
College of Language, Linguistics and Literature	15	1,746,712	17	1,366,084	(380,628)	-21.8%
Center for Language and Technology	2	4,170	2	16,339	12,169	291.8%
College of Language, Linguistics and Literature	2	669,779	1	174,700	(495,079)	-73.9%
Department of East Asian Languages and Literature	3	888,392	4	922,073	33,681	3.8%
Department of English	2	5,500	3	6,200	700	12.7%
Department of Linguistics	6	178,871	6	246,260	67,389	37.7%
Dept of Languages and Literatures of Europe and the Americas	-	-	1	512	512	100.0%
College of Natural Sciences	138	14,614,244	125	13,925,308	(688,936)	-4.7%
Department of Biology (Biology Program)	9	277,833	7	865,860	588,027	211.6%
Department of Botany	103	11,535,912	91	11,093,724	(442,188)	-3.8%
Department of Chemistry	5	504,901	7	346,532	(158,369)	-31.4%
Department of Mathematics	3	565,355	3	286,345	(279,010)	-49.4%
Department of Microbiology	-	-	1	540	540	100.0%
Department of Physics and Astronomy	13	1,278,246	12	981,960	(296,286)	-23.2%
Information and Computer Sciences	5	451,997	4	350,347	(101,650)	-22.5%
College of Social Sciences	46	9,461,128	42	10,396,092	934,964	9.9%
College of Social Sciences	-	-	1	3,000	3,000	100.0%
Department of Anthropology	3	171,262	2	545,767	374,505	218.7%
Economics (UH Manoa)	5	147,333	5	242,905	95,572	64.9%
Ethnic Studies	1	8,478	-	-	(8,478)	-100.0%
Geography (UH Manoa)	4	312,222	4	247,210	(65,012)	-20.8%
Political Science (UH Manoa)	2	78,969	1	20,742	(58,227)	-73.7%
Psychology (UH Manoa)	4	827,582	3	1,082,845	255,263	30.8%
School of Communications	3	106,300	2	36,746	(69,554)	-65.4%
Social Science Research Institute	20	2,691,127	18	2,916,277	225,150	8.4%
Social Sciences Public Policy Center	1	2,500	-	-	(2,500)	-100.0%
Sociology (UH Manoa)	1	15,355	1	20,000	4,645	30.3%
Urban and Regional Planning	2	5,100,000	5	5,280,600	180,600	3.5%
College of Tropical Agriculture and Human Resources	80	9,179,296	78	10,301,421	1,122,125	12.2%
Center on the Family	4	426,880	5	628,160	201,280	47.2%
College of Tropical Agriculture and Human Resources	6	690,196	6	703,867	13,671	2.0%
Cooperative Extension	1	229,092	3	716,464	487,372	212.7%
Family and Consumer Sciences	3	212,122	2	130,647	(81,475)	-38.4%
Hawaii County	3	36,782	4	521,608	484,826	1318.1%
Human Nutrition, Food and Animal Sciences	5	300,687	5	322,743	22,056	7.3%
Kauai County	1	13,800	1	13,800	-	0.0%
Maui County	3	158,347	3	244,714	86,367	54.5%
Molecular Biosciences and Bioengineering	-	-	1	75,000	75,000	100.0%
Natural Resources and Environmental Mgt	19	1,374,467	8	682,876	(691,591)	-50.3%
Oahu County	2	676,511	2	571,526	(104,985)	-15.5%
Office of The Assoc Dean for Academic and Student Affairs	1	1,528,439	4	2,162,953	634,514	41.5%
Plant and Environmental Protection Sciences	23	3,165,659	29	3,374,388	208,729	6.6%

Tropical Plant and Soil Science	9	366,314	5	152,675	(213,639)	-58.3%
Colleges of Arts and Sciences	-	-	1	18,000	18,000	100.0%
Colleges of Arts and Sciences	-	-	1	18,000	18,000	100.0%
Hawai'iuniaka School of Hawaiian Knowledge	5	1,925,179	4	2,534,574	609,395	31.7%
Hawai'iuniaka School of Hawaiian Knowledge	5	1,925,179	4	2,534,574	609,395	31.7%
Institute for Astronomy	29	7,299,544	22	8,307,301	1,007,757	13.8%
Institute for Astronomy	29	7,299,544	22	8,307,301	1,007,757	13.8%
John A. Burns School of Medicine	124	38,900,660	115	28,169,255	(10,731,405)	-27.6%
Department of Anatomy, Biochemistry, and Physiology	1	319,398	5	766,013	446,615	139.8%
Department of Cell and Molecular Biology	4	3,249,774	6	2,969,029	(280,745)	-8.6%
Department of Complementary and Alternative Medicine	6	2,276,715	9	2,469,581	192,866	8.5%
Department of Family Medicine and Community Health	6	1,160,000	3	2,050,100	890,100	76.7%
Department of Geriatric Medicine	5	1,936,319	3	111,310	(1,825,009)	-94.3%
Department of Medicine	23	4,835,555	15	1,497,129	(3,338,426)	-69.0%
Department of Native Hawaiian Health	13	2,297,421	9	1,177,504	(1,119,917)	-48.7%
Department of Obstetrics, Gynecology and Women's Health	10	4,884,280	7	595,374	(4,288,906)	-87.8%
Department of Pediatrics	13	4,914,903	11	3,007,951	(1,906,952)	-38.8%
Department of Psychiatry	5	3,465,765	6	1,848,780	(1,616,985)	-46.7%
Department of Surgery	10	2,016,386	10	1,311,944	(704,442)	-34.9%
Department of Tropical Medicine, Medical Micro and Pharm	17	4,106,318	19	2,572,474	(1,533,844)	-37.4%
Institute for Biogenesis Research	3	2,391,460	1	195,492	(2,195,968)	-91.8%
John A. Burns School of Medicine	7	363,861	10	6,917,574	6,553,713	1801.2%
Native Hawaiian Center of Excellence	1	682,505	1	679,000	(3,505)	-0.5%
Lyon Arboretum	7	492,995	3	153,592	(339,403)	-68.8%
Lyon Arboretum	7	492,995	3	153,592	(339,403)	-68.8%
Office of Research Compliance	-	-	1	49,900	49,900	100.0%
Animal and Veterinary Services Program	-	-	1	49,900	49,900	100.0%
Outreach College	2	3,700	6	124,887	121,187	3275.3%
Community Programs	2	3,700	4	62,750	59,050	1595.9%
Outreach College	-	-	2	62,137	62,137	100.0%
School of Architecture	2	163,646	1	150,175	(13,471)	-8.2%
School of Architecture	2	163,646	1	150,175	(13,471)	-8.2%
School of Nursing and Dental Hygiene	5	1,103,027	9	2,014,904	911,877	82.7%
Department of Nursing	5	1,103,027	7	1,928,453	825,426	74.8%
School of Nursing and Dental Hygiene	-	-	2	86,451	86,451	100.0%
School of Ocean and Earth Science and Technology	223	45,224,573	225	52,144,547	6,919,974	15.3%
Center for Microbial Oceanography, Research and Edu (C-MORE)	4	1,911,601	8	3,918,028	2,006,427	105.0%
Department of Atmospheric Sciences	8	3,599,708	3	264,402	(3,335,306)	-92.7%
Department of Geology and Geophysics	16	1,691,359	10	717,272	(974,087)	-57.6%
Department of Ocean and Resources Engineering	4	800,280	6	1,090,462	290,182	36.3%
Department of Oceanography	25	8,504,922	29	6,379,768	(2,125,154)	-25.0%
Hawaii Institute of Geophysics and Planetology (HIGP)	47	4,861,344	48	5,498,059	636,715	13.1%
Hawaii Institute of Marine Biology (HIMB)	18	3,078,811	22	2,563,350	(515,461)	-16.7%
Hawaii Natural Energy Institute (HNEI)	5	1,081,034	6	2,479,722	1,398,688	129.4%
International Pacific Research Center (IPRC)	9	934,756	9	1,683,182	748,426	80.1%
Joint Institute for Marine and Atmospheric Research (JIMAR)	53	14,738,772	50	19,574,572	4,835,800	32.8%
Pacific Biosciences Research Center	17	1,302,497	13	1,187,089	(115,408)	-8.9%
School of Ocean and Earth Science and Technology	5	1,382,000	8	4,617,450	3,235,450	234.1%
Sea Grant College Program	12	1,337,489	13	2,171,191	833,702	62.3%
School of Pacific and Asian Studies	8	933,510	10	1,769,523	836,013	89.6%
Center for Chinese Studies	2	57,400	-	-	(57,400)	-100.0%
Center for Japanese Studies	1	219,850	2	571,350	351,500	159.9%
Center for Korean Studies	2	182,860	4	213,273	30,413	16.6%
Center for Pacific Islands Studies	1	228,000	2	405,000	177,000	77.6%
Center for Southeast Asian Studies	1	239,400	2	579,900	340,500	142.2%
School of Pacific and Asian Studies	1	6,000	-	-	(6,000)	-100.0%
School of Social Work	28	3,735,645	26	4,766,351	1,030,706	27.6%
Center on Aging	1	14,983	1	86,231	71,248	475.5%
Dept of Public Health Sciences and Epidemiology	8	519,541	6	502,423	(17,118)	-3.3%
Office of Public Health Studies	9	2,149,684	11	3,084,817	935,133	43.5%
School of Social Work	10	1,051,437	8	1,092,880	41,443	3.9%
Shidler College of Business	2	269,596	-	-	(269,596)	-100.0%
Department of Management and Industrial Relations	1	210,000	-	-	(210,000)	-100.0%
Shidler College of Business	1	59,596	-	-	(59,596)	-100.0%
University of Hawaii Cancer Center	40	21,470,668	39	12,556,926	(8,913,742)	-41.5%
Cancer Etiology	16	8,908,857	17	6,105,868	(2,802,989)	-31.5%
Clinical Sciences	8	9,263,920	11	1,958,582	(7,305,338)	-78.9%
Natural Products	7	785,898	4	347,306	(438,592)	-55.8%
Social and Behavioral Sciences	1	37,550	-	-	(37,550)	-100.0%
University of Hawaii Cancer Center	8	2,474,443	7	4,145,170	1,670,727	67.5%
Vice Chancellor, Academic Affairs	4	450,724	7	1,173,822	723,098	160.4%
Graduate Education	1	4,000	1	695,000	691,000	17275.0%
Library (UH Manoa)	2	52,719	4	52,081	(638)	-1.2%
Service Learning	-	-	1	22,886	22,886	100.0%
Undergraduate Education	1	394,005	1	403,855	9,850	2.5%
Vice Chancellor, Admin, Finance and Operations	1	4,807	-	-	(4,807)	-100.0%
Buildings & Grounds Management	1	4,807	-	-	(4,807)	-100.0%
Vice Chancellor, Students	10	4,215,318	12	2,799,843	(1,415,475)	-33.6%
Health & Wellness	-	-	1	25,000	25,000	100.0%
Student Equity Excel & Diversity	9	4,140,318	10	2,752,843	(1,387,475)	-33.5%
Women's Center	1	75,000	1	22,000	(53,000)	-70.7%

Water Resources Research Center	6	278,749	9	3,669,214	3,390,465	1216.3%
Water Resources Research Center	6	278,749	9	3,669,214	3,390,465	1216.3%
William S. Richardson School of Law	15	748,658	20	1,672,040	923,382	123.3%
William S. Richardson School of Law	15	748,658	20	1,672,040	923,382	123.3%
University of Hawai'i at West O'ahu	10	5,381,172	17	5,774,403	393,231	7.3%
Chancellor, UH West Oahu	10	5,381,172	17	5,774,403	393,231	7.3%
Anthropology (UH WO)	-	-	2	1,200	1,200	100.0%
Chancellor, UH West Oahu	3	2,119,104	3	2,059,769	(59,335)	-2.8%
Division of Social Sciences	2	231,326	5	718,166	486,840	210.5%
General Business Administration	1	424,088	-	-	(424,088)	-100.0%
General Public Administration	1	328,000	-	-	(328,000)	-100.0%
Vice Chancellor for Student Affairs	3	2,278,654	7	2,995,268	716,614	31.4%
University of Hawai'i Maui College	17	6,427,610	24	9,835,431	3,407,821	53.0%
Chancellor, UH Maui College	17	6,427,610	24	9,835,431	3,407,821	53.0%
Academic Affairs (UH Maui College)	-	-	1	2,000,000	2,000,000	100.0%
Allied Health Department	-	-	1	1,100	1,100	100.0%
Chancellor, UH Maui College	4	1,662,032	16	4,331,536	2,669,504	160.6%
Cooperative Education (UH Maui College)	2	114,523	2	58,680	(55,843)	-48.8%
Culinary Arts (UH Maui College)	1	45,000	-	-	(45,000)	-100.0%
General Education	1	800,000	1	800,000	-	0.0%
Human Services (UH Maui College)	1	1,860,888	1	1,883,888	23,000	1.2%
Music (UH Maui College)	1	500,000	1	500,000	-	0.0%
Non-Credit Programs (UH Maui College)	2	70,000	-	-	(70,000)	-100.0%
Student Affairs (UH Maui College)	4	1,341,034	1	260,227	(1,080,807)	-80.6%
University of Hawaii Center, Maui	1	34,133	-	-	(34,133)	-100.0%
University of Hawai'i System	39	28,620,143	37	21,936,898	(6,683,245)	-23.4%
Office of the Vice President for Community Colleges	1	182,847	4	1,380,851	1,198,004	655.2%
Office of the Vice President for Community Colleges	1	182,847	4	1,380,851	1,198,004	655.2%
Office of the Vice President for Research and Innovation	13	8,622,196	11	4,234,564	(4,387,632)	-50.9%
Applied Research Laboratory	10	8,411,057	10	4,227,561	(4,183,496)	-49.7%
Office of the Vice President for Research and Innovation	3	211,139	1	7,003	(204,136)	-96.7%
Office of the VP for Academic Planning and Policy	10	7,920,572	9	3,555,476	(4,365,096)	-55.1%
Hawai'i P-20 Partnerships for Education Office	6	711,594	7	3,366,450	2,654,856	373.1%
Office of the VP for Academic Planning and Policy	4	7,208,978	2	189,026	(7,019,952)	-97.4%
Office of the VP for Information Tech/Chief Info Officer	14	11,889,528	13	12,766,007	876,479	7.4%
Maui High Performance Computing Center (MHPCC)	4	2,700,991	-	-	(2,700,991)	-100.0%
Office of the VP for Information Tech/Chief Info Officer	3	207,459	6	5,728,560	5,521,101	2661.3%
Pacific Disaster Center	7	8,981,078	7	7,037,447	(1,943,631)	-21.6%
VP For Administration	1	5,000	-	-	(5,000)	-100.0%
VP For Administration	1	5,000	-	-	(5,000)	-100.0%
Windward Community College	19	7,308,045	15	6,416,706	(891,339)	-12.2%
Chancellor, Windward Community College	19	7,308,045	15	6,416,706	(891,339)	-12.2%
Academic Affairs (Windward CC)	1	49,975	-	-	(49,975)	-100.0%
Chancellor, Windward Community College	18	7,258,070	15	6,416,706	(841,364)	-11.6%
Grand Total	1,044	241,852,562	1,039	230,721,119	(11,131,443)	-4.6%

Act 38 and Act 39 Session Laws of Hawai'i 2017

BOR Research & Innovation Committee Meeting
February 7, 2018



Signing Ceremony

June 19, 2017



Overview

- One of UH's strategic directions is to grow the portfolio of sponsored research done at the University, and to promote innovation and workforce diversification in the state's economy. One critical phase of innovation is the ability to commercialize research ideas generated on campus known as technology transfer, which is designed to strengthen economies by getting new ideas, inventions and processes developed in universities to the private sector.
- Technology transfer and commercialization legislation was introduced in the 2015, 2016 and 2017 legislative sessions; successfully introduced and passed as House Bill 425 (Act 38) and House Bill 847 (Act 39) in 2017.
- Act 38 – Transfers responsibility to manage ethical issues arising in the context of technology transfer activities – such as financial conflicts of interests, or use of public resources--from the State Ethics Commission to the University of Hawai'i.
- Act 39 – Establishes the innovation and commercialization initiative program under the direction of the Vice President for Research and Innovation; authorizes the University to engage in a range of technology transfer activities; and creates a special fund to implement the program.



Sunset and Reporting

- Act 38 is effective upon approval [June 19, 2017] and repealed on June 30, 2022. UH must submit an annual report to the Legislature on its regulatory framework and technology transfer activities.
- Act 39 is effective on July 1, 2017, and repealed on June 30, 2021. UH must submit biennial report to Legislature on use of special fund and its coordinated efforts with other state agencies.



Act 38 Highlights

- Act 38 **transfers** responsibility for compliance of technology transfer activities with ethics from State Ethics Commission to the University; Act 38 is not an “**exemption**” from any ethics oversight at all.
- Responsibility is transferred as to “activities” not “employees”, per Attorney General’s interpretation of the scope of Article XIV of the State Constitution, Code of Ethics.



Act 38 Highlights (cont.)

Typical types of conflict that might arise in the Technology Transfer context—the “wearing two hats” and “dual use” problems:

- Conflicts of Financial Interests by individual who is both a UH researcher and the start-up entrepreneur/key employee of an entity that licenses UH patent based on individual’s research.
- Conflicts of Time and Attention Commitments by individual who is both a University employee and a private citizen.
- Conflicts of Public vs. Private benefits simultaneously resulting from use of University facilities or funds.



Act 38 Highlights (cont.)

Principles to Manage Conflicts:

- Insulate Investment Decisions/Decision makers from Operational Decisions/Decision makers.
- Justify each type of decision by independent “due diligence” appropriate to that type, e.g., investment committees recommend investments; research committee recommends direction of research.
- Recuse conflicted individuals from negotiating, influencing, or decision making.

“Each hat on its own head”



Notable Powers under Act 39

Act 39 allows the University to:

- Contribute equity, loan funds, or participate directly or indirectly to finance concepts or proposals that are likely to lead to viable business using university research.
- Acquire personal property of any nature either directly or through intermediate entities formed or established specifically for program purposes.
- Provide instruction, training, and marketing assistance to support and promote projects in which UH invests.



Example of Using Act 39

- Incorporating UH Ventures, LLC, a Hawai'i limited liability company, and forming single purpose subsidiaries thereunder.

Benefits:

- ✓ Managing Conflicts of Interest
“Each hat on own head, - - each head on own corporate body.”
- ✓ Compartmentalizing Risks- Firewalls and Bulkheads
- ✓ Assuring Transparency-Avoiding Comingling of funds



Business Registration

DCCA State of Hawaii

Downloaded on October 3, 2017.

The information provided below is not a certification of good standing and does not constitute any other certification by the State. Website URL: <http://hbe.hawaii.gov/documents>

Business Information

MASTER NAME	UH VENTURES, LLC
BUSINESS TYPE	Domestic Limited Liability Company (LLC)
FILE NUMBER	180100 C5
STATUS	Active
PLACE INCORPORATED	Hawaii UNITED STATES
REGISTRATION DATE	Sep 1, 2017
MAILING ADDRESS	2425 CAMPUS RD SINCLAIR 10 HONOLULU, Hawaii 96822 UNITED STATES
PARTNER TERMS	AT-WILL
MANAGED BY	MANAGER(S)
AGENT NAME	VASSILIS L. SYRMOS
AGENT ADDRESS	2444 DOLE ST BACHMAN HALL 204 HONOLULU, Hawaii 96822 UNITED STATES

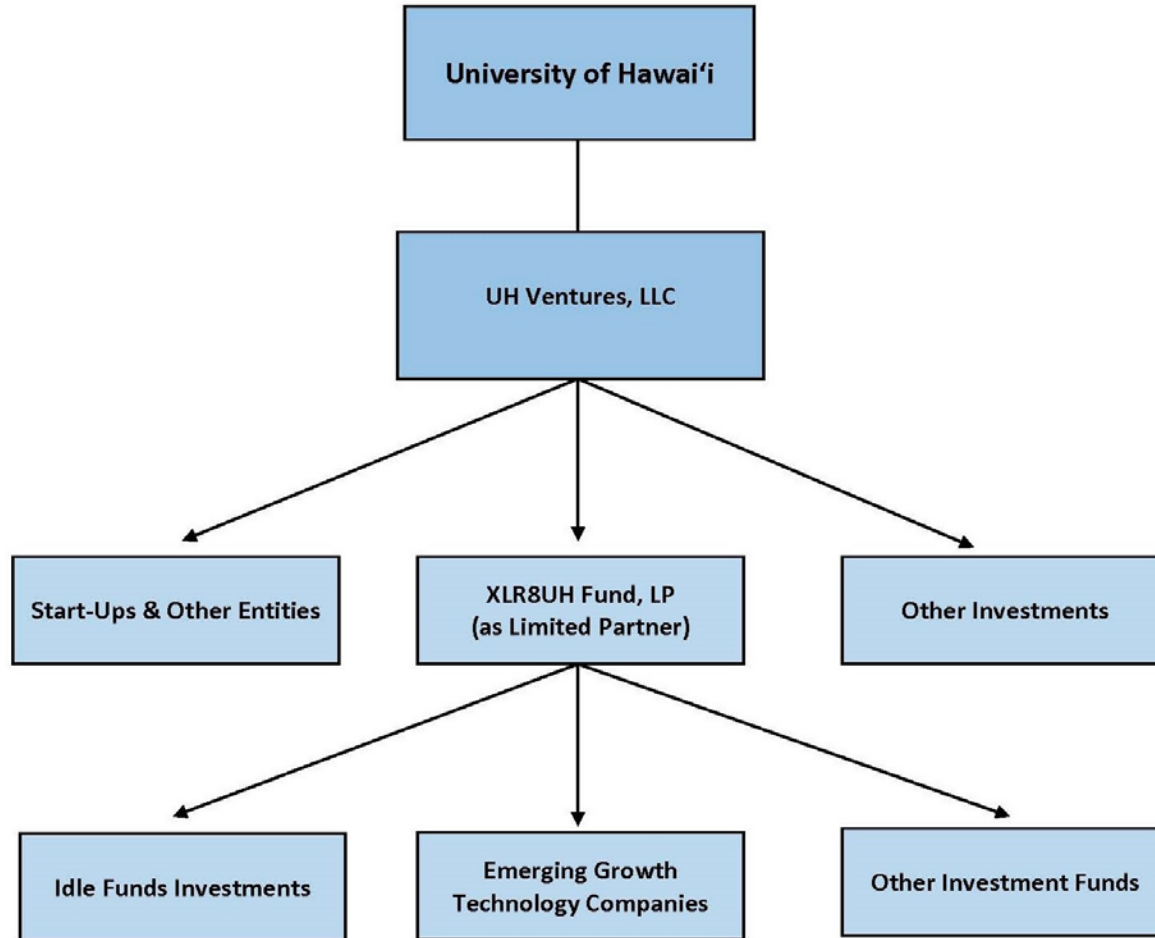
Officers

NAME	OFFICE	DATE
UNIVERSITY OF HAWAII	MGR	Sep 1, 2017

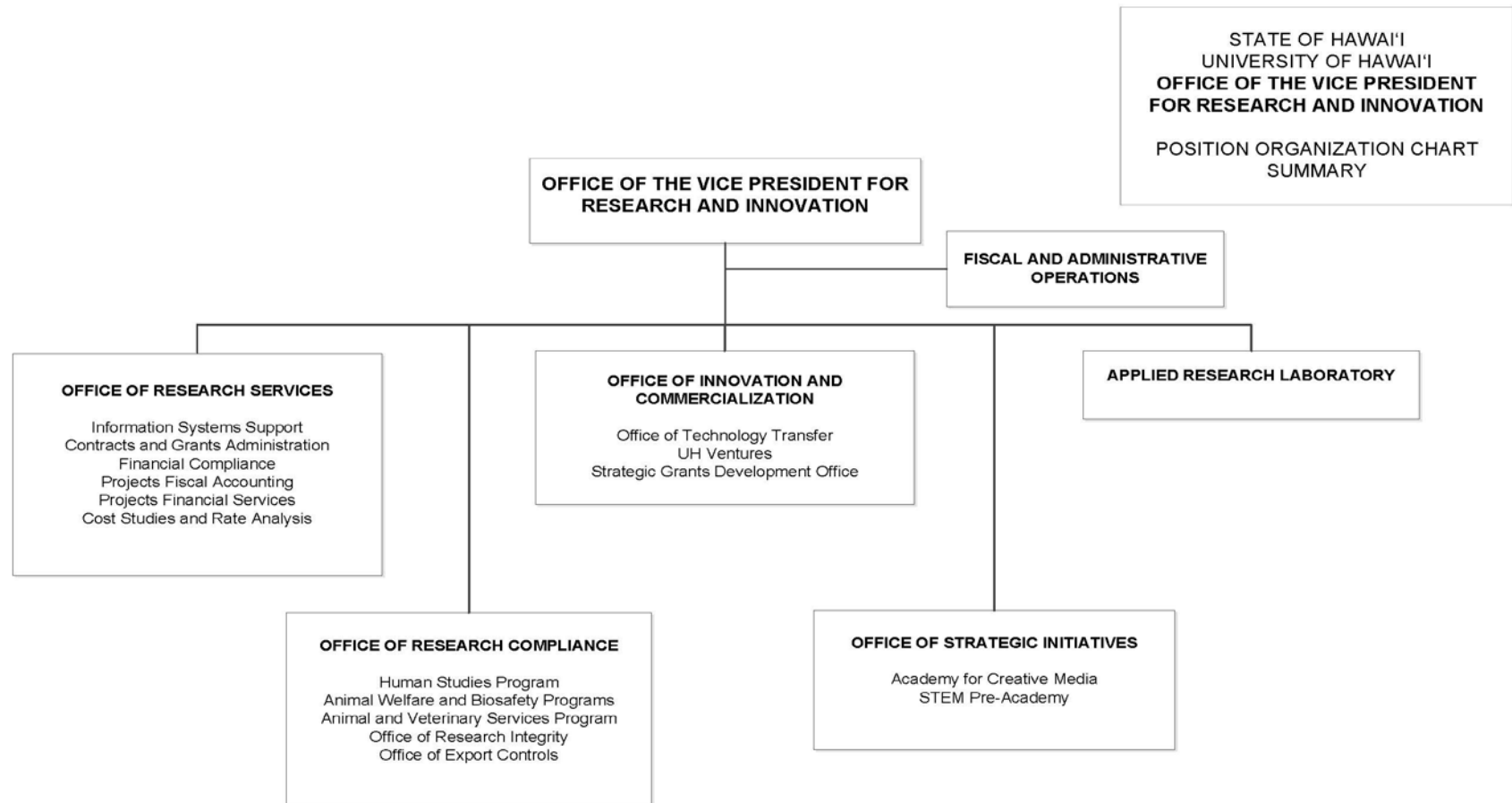


UH Ventures, LLC

Functional Organizational Chart



Office of the Vice President for Research and Innovation Organizational Chart



Applied Research at the University of Hawai'i

BOR Research & Innovation Committee Meeting
February 7, 2018



Basic vs. Applied Research

Basic Research

- Undertaken primarily to acquire new knowledge without any particular application or use in view.

Applied Research

- Directed primarily towards a specific, practical aim or objective.

**SOURCE: NSF Higher Education
Research & Development Expenditures
(NSF HERD) survey instrument*

For example....

Basic Research

- A researcher is studying the properties of molecules under various heat and cold conditions.

Applied Research

- A researcher is investigating the properties of particular substances under various heat and cold conditions with the objective of finding longer-lasting components for highway pavement.

**SOURCE: NSF Higher Education
Research & Development Expenditures
(NSF HERD) survey instrument*

RDT&E Taxonomy

- Dept. of Defense appropriation structure for Research, Development, Test and Evaluation (RDT&E)
 - Color of money indicates basic vs. applied research and development
- CAVEAT: Appropriation structure not completely reliable (e.g., DOD has used O&M appropriations to support research)



RDT&E 6.0 Series

- 6.1 = Basic research
-
- 6.2 = Applied research
 - 6.3 = Advanced technology development
 - 6.4 = Advanced component development and prototypes
 - 6.5 = Systems development
 - 6.6 = RDT&E management support
 - 6.7 = Operational system development



Methodology

- Calculated ratio of active award count for UH Mānoa (Unique 6-digit *myGRANT* award ID)
 - Examined subset of federal sponsors that fund applied research and development
 - Judgmentally reviewed Project Goals/proposal abstract to categorize award as basic or applied research



Top Three Funding Agencies....

Applied Research

- Dept. of Health and Human Services (HHS)
- Dept. of Defense (DOD)
- Dept. of Energy (DOE)

Development

- Dept. of Defense (DOD)
- NASA
- Dept. of Energy (DOE)

**SOURCE: Federal Research and Development Funding: FY 2016
(Congressional Research Service, 2016)*

What about NSF?

- The National Science Foundation (NSF) funds approximately 24% of all federally supported basic research (equivalent to RDT&E 6.1) conducted by US colleges and universities (*Source: <https://www.nsf.gov/about/>)
- Thus, NSF primarily funds basic research



Comparison Table

Budget Ratio for Each Agency by Research Type (FFY 2017 Projected Federal Obligations for Research)

Agency	Basic	Applied
HHS	50.3%	49.7%
DOD	31.8%	68.2%
DOE	47.8%	52.2%
NASA	58.1%	41.9%
NSF	86.6%	13.4% [Lowest]

**SOURCE: Total Federal Research and Development Funding Down 1% in FY 2015, but Funding for Research Up 1% (Yamaner, NCSES, 2017)*



Findings

UH Mānoa Ratios by Award Count

(Active awards as of 11/01/2017)

Agency (Total Count)	Basic	Applied	Agency Budget Ratio (Applied)
HHS (48)	62.5%	37.5%	49.7%
DOD (54)	18.5%	81.5%	68.2%
DOE (8)	50.0%	50.0%	52.2%
NASA (55)	74.5%	25.5%	41.9%



Findings – Cont'd

UH Mānoa Ratios by Award Dollars

(Active award increments as of 11/01/2017; in millions)

Agency	Basic	BR %	Federal BR Budget Ratio	Applied	AR %	Federal AR Budget Ratio	Total
HHS	\$25.6	72.7%	50.8%	\$9.6	27.3%	49.7%	\$35.2
DOD	\$2.7	6.0 %	31.8%	\$42.5	94.0%	68.2%	\$45.2
DOE	\$2.1	84.0%	47.8%	\$0.4	16.0%	52.2%	\$2.5
NASA	\$13.0	50.7%	58.1%	\$12.6	49.3%	41.9%	\$25.6



F&A Recovery Impact

Based on the sample....

- Basic or applied research designation makes no difference in F&A rate
 - Applicable federally negotiated rate at time of award used in both cases
- However, rate of return is different based on expenditure volume and mix
 - For example, costs such as equipment and subawards over first \$25K are not subject to F&A





UH West O'ahu
BOR Committee on Research & Innovation, Feb. 7, 2018

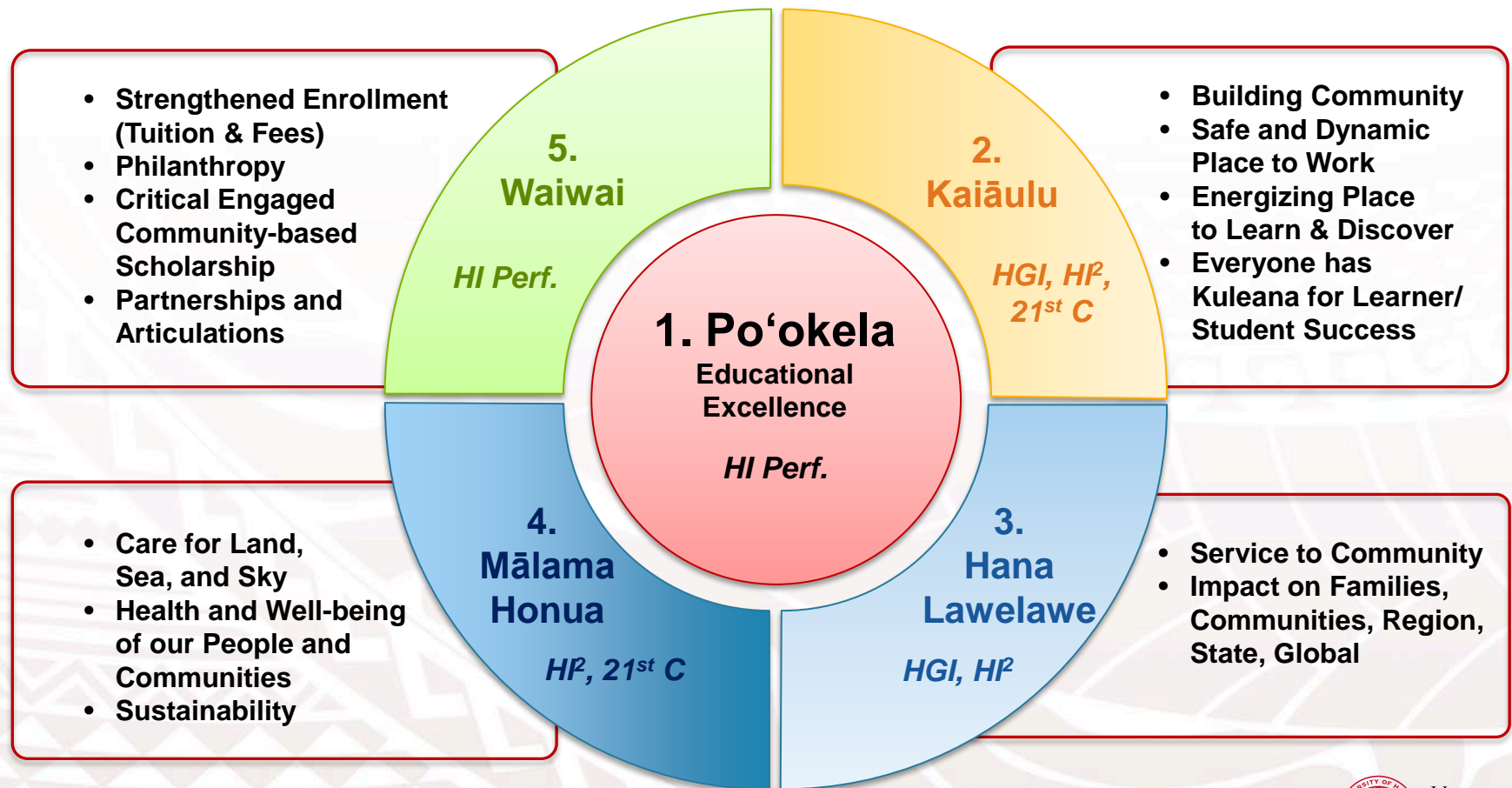


UNIVERSITY of HAWAII[®]
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Pūpūkahi I Holomua!

Value Proposition: “UHWO prepares 21st Century leaders – career creators – through integrated, transdisciplinary programs where learners discover, innovate, and engage diverse communities to create a vibrant and just world!”

Pahuhopu (Guiding Principles)



Extramural Funding 2012-2018



ORS Awards Summary FY 2017

Campus	Award Amount	Award Count	% of Total
Hawai'i Community College	179,897	7	0.0%
Honolulu Community College	2,864,032	15	0.7%
Kapi'olani Community College	6,736,316	22	1.7%
Kaua'i Community College	2,007,725	8	0.5%
Leeward Community College	4,260,373	13	1.1%
University of Hawai'i at Hilo	12,881,686	141	3.3%
University of Hawai'i at Manoa	294,006,559	1,545	76.0%
University of Hawai'i at West O'ahu	5,631,172	13	1.5%
University of Hawai'i Maui College	7,440,725	32	1.9%
University of Hawai'i System	43,587,143	67	11.3%
Windward Community College	7,406,077	23	1.9%
Grand Total	387,001,705	1,886	100.0%



UHWO Comprehensive Institutional Strategic Action Plan, 2018-2028: *Sustainable at 8000 by 2028*

- Table of Contents
- Executive Summary
- Institution Context
- Strategic Goals and Performance Measures
- Strategic Action Plans: Learning, Student Success and Scholarship Core:
 - **Academic Program Plan**
 - **Enrollment Management and Student Success**
 - Program Evaluation and Assessment
 - **Scholarship of Engagement: Research & Applied Research**
 - Marketing and Communications
- Other Strategic Action Plans:
 - **Land/Facilities Development**
 - Information Technology
 - Compliance
- Fund Development
- Financial Business Plan
- Action Gantt Chart
- Appendices

Institute for Engaged Scholarship

The **Institute for Engaged Scholarship (IES)** is a campus-wide effort to create an environment of applied research that supports the work of faculty, staff and students *that serves the public good through active collaboration with community partners to address and impact key issues in our communities.*

- To provide services that support extramural funding efforts.
- To promote innovative and transformative learning experiences for students, faculty and staff through engaged scholarship opportunities.
- To foster the generation, transmission, and application of scholarship to affect transformative/positive change in our communities.

Engaged Scholarship is conducted within the context of community needs anchored in existing scholarship/research and best practices AND inclusive of new and diverse understandings (public and academic arenas).

Examples of Funded Engaged Scholarship

Capacity Building

- STEM Center of Excellence – Office of Naval Research
- Math Focused STEM Education - NSF/TCUP
- Library and Ulu Ulu Archive

Student Success Support Services

- Gear-up – Focused on regional schools to increase High School graduation and college-going rates
- P-20 – Focused on college-readiness

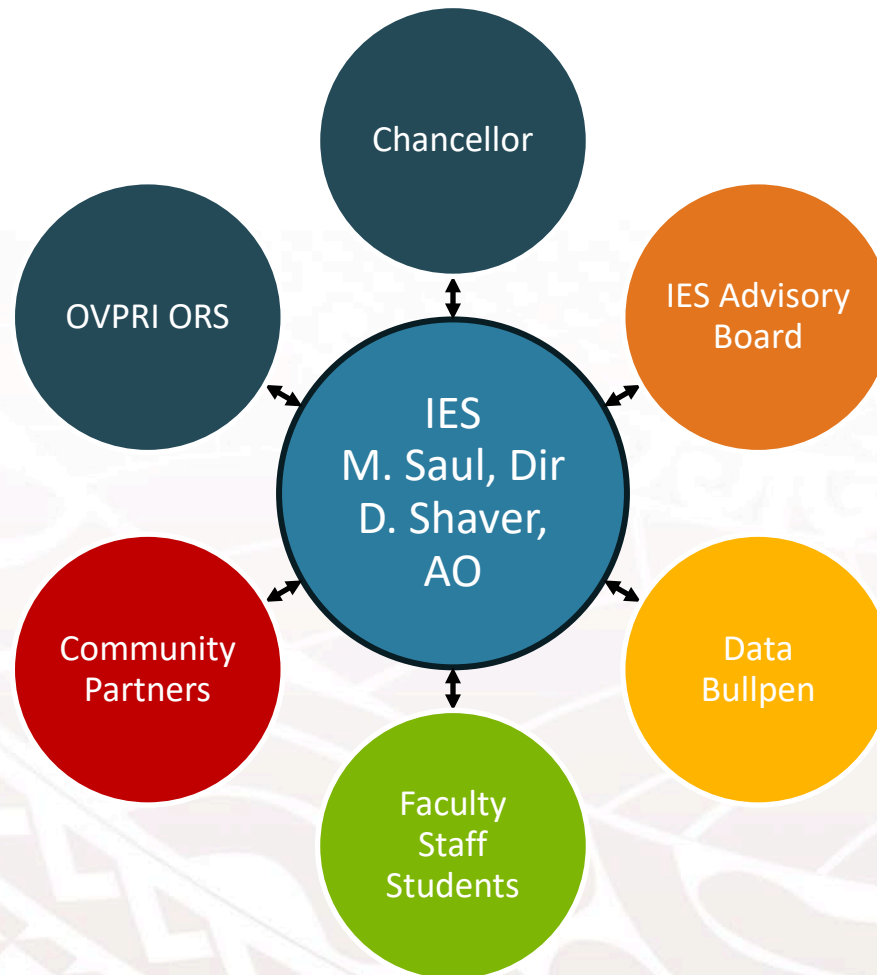
Program Development to meet State and National initiatives:

- Sustainable Community Food Systems – USDA and Kamehameha Schools
- Cybersecurity Coordination Center– ONR and DOD
- Education and Special Education – DOE, Hawaii DOE

Focus on Native Hawaiian Student Success

- USDOE Title III – ANNH Part A and Part F (Renovations)

Current Organizational Structure of IES



Highlights of Research Engaged Scholarship

Faculty Highlights

Dr. Albie Miles developed the Sustainable Community Food Systems program which is a multi-disciplinary, experiential and applied education program about key ecological and social issues in food and agricultural systems.	Kamehameha Schools and USDA
Dr. Rick Jones developed the Pueo Prototyping Lab which supports and expands the UH West O'ahu STEM Center of Excellence to include engineering work stations and 3-D printers for use by UH West O'ahu students and the community.	Office of Naval Research (ONR)
Dr. Esther Widiasih and Dr. Michael Furuto developed coursework in Math to increase student access to STEM education opportunities. They also fostered student research experiences and opportunities.	NSF – TCUP- Institutional Capacity Enhancement
Dr. Matthew Chapman developed the Cyber Security Coordination Center (CSCC) to provide students with an opportunity to work in a cyber operations center and coordinate cyber defense information with local and regional partners.	ONR and Dept. of Defense

Student Examples of Engaged Scholarship

Student Examples	Engaged Scholarship and Research – NSF Funded Undergraduate Research
Morgan Dutkoski	A mathematical model of the 2015 dengue outbreak in Hawai'i
Nohelani Maikai	Ka Waiwai o Ka Hawewe Ikehu La (Cost Projection for Solar PV vs. conventional power source at UHWO)
Kristin Umakoshi	Student Engagement: Group Work in the College Classroom
Arion Northrop	Community composition and antimicrobial properties of native limu at Oneula Beach Park, Hawai'i.
Shane Yaw	Antioxidant activities on some common vegetables in Hawai'i
Marc Moriguchi	Flooding in O'ahu: A Systematic Review of Rainfall Frequency, Intensity and Urbanization on the Island of O'ahu

'Imi Na'auao: Hawaiian Knowing and Wellbeing

- Kamehameha Schools Research Grant (Pilot Project)
- Funding \$252,723.00
- Collaborative research project
 - Dr. Manu Meyer and Dr. Christy Mello + Community Researchers + UHWO Transdisciplinary Team
- CBO Capacity Building:
 - Harry Truman Fund \$5000, Lehua Network Funders \$22,000

Goals 2017-2019

- 1. Foster growth and strengthen applied research development support across all divisions.**
- 2. Establish a thriving "research" culture of applied inquiry, engaged scholarship, and evaluation/assessment.**
- 3. Support faculty efforts to develop and sustain applied research/engaged scholarship and engage students in research & engaged scholarship initiatives and opportunities.**
- 4. Develop, redesign, and improve campus classroom and outdoor spaces to foster undergraduate applied research experiences and support core research facilities (i.e. chemistry, soil science, forensic anthropology, physics, applied math lab, etc.).**

Current Strategic Actions

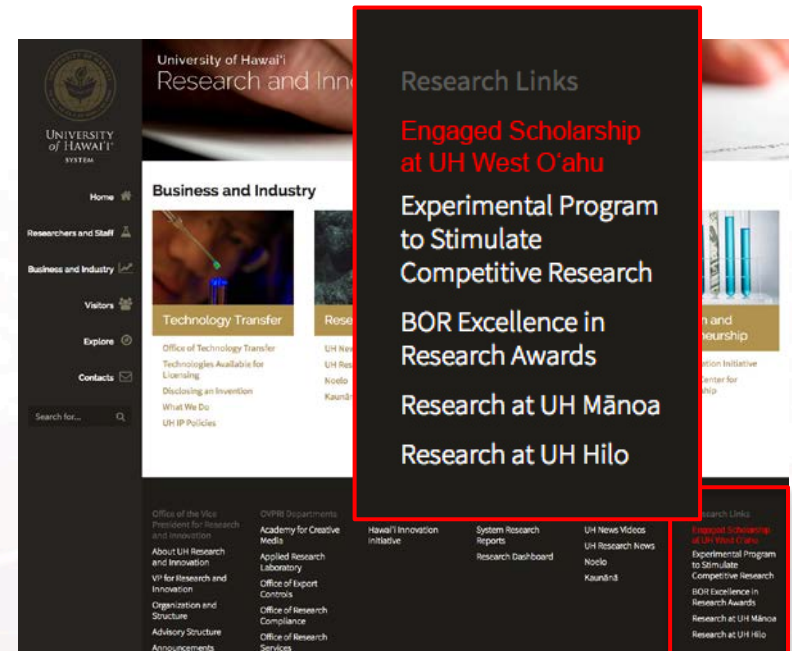
- Using RTRF to support IES efforts to increase funded projects and to seed pilot studies.
- Using RTRF to establish a data bullpen for big data and data analytics.
- Go Live with an active IES Website.
- Increasing faculty involvement in value-added community-based engaged scholarship and assessment/evaluation efforts.
- Increasing faculty transdisciplinary teams that foster student engaged scholarship so all students have research experiences that engage their community and address social, environmental and other pressing issues. Grow the Student Engaged Scholarship Symposium (inaugural Fall 2017).
- Establish integrated HUBS where faculty, staff and students have the opportunity to work on applied/engaged and experiential research:
 - **Creative Media HUB** with our transdisciplinary teams, diverse professional fields, and regional public/private K-12 schools .
 - **STEM, Sustainability, and Health-Wellness Eco-system** with indoor and outdoor spaces and linked to community partners
 - **Innovation ZONE** that partners knowledge well at UHWO with entrepreneurial endeavors to unleash commercial opportunities.

Funded Projects in-Process

Funder	Focus	Award Amount	Faculty
USDA HIEd Multicultural Scholars Program	Agricultural Pathway for Underrepresented Students	\$198,000	Dr. Miles
USDA Beginning Farmers	Community-based micro-entrepreneurial opportunities for Wai‘anae beginning farmers	\$600,000	Dr. Mello
NOAA	Coastal Resilience	\$300,000	Dr. Ross
Dept. of Defense - ONR	STEM Curriculum (Modeling)	\$50,000	Dr. Yong
Kamehameha Schools	Student Services Initiatives <ul style="list-style-type: none"> • A‘ali‘i Scholars \$68,546 • ‘Ike Ola \$160,565 • Ka‘ala Scholars \$174, 770 • Ala ‘Ike Holomua \$496,726 	\$1,000,607	Dr. Saul

Aspirations

- Strengthened IES (staff and resources) with fully engaged faculty, staff and students.
- Vibrant, contributing Engaged Scholarship HUBS.
- Membership: The Engagement Scholarship Consortium (ESC), composed of higher education institutions (33 universities) working to promote strong university-community partnerships that are anchored in the rigor of scholarship and designed to help build community capacity.





*Mahalo
Nūnui!*



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Nīnau?*
























UH Strategic Directions/ Hawai'i Innovation Initiative Metrics

BOR Research & Innovation Committee Meeting
February 7, 2018



Metrics

	FY 2015		FY 2016		FY 2017	
	Target	Actual	Target	Actual	Target	Actual
Extramural Awards (\$ millions)	412	 425	432	 391	454	 387
	FY 2015		FY 2016		FY 2017	
	Target	Actual	Target	Actual	Target	Actual
Invention Disclosures	41	 59	43	 50	45	 52
US Patents	15	 8	15	 11	16	 8
Licenses/Options	9	 3	10	 12	10	 12
Start-Up Companies (w/o XLR8UH)	2	 1	3	 2	3	 1
Not part of Strategic Directions:						
Start-Up Companies (w/ XLR8UH)	10	 10	11	 6	11	 8
Royalties	230	 266	240	 408	250	 289

Conditional Formatting:

Target: >=90% and <100% = Yellow; <90% = Red

For Targets less than 20: >=33% and <67% = Yellow; <33% = Red

