

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

BOARD OF REGENTS COMMITTEE ON RESEARCH AND INNOVATION

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

Date: Tuesday, November 27, 2018

Time: 11:00 a.m.

Place: University of Hawai'i Mānoa Innovation Center
Presentation Room, Suite #173
2800 Woodlawn Drive
Honolulu, Hawai'i 96822

AGENDA

I. Call Meeting to Order

II. Approval of Minutes of the October 3, 2018, 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 and will be posted on the board's website.

IV. Agenda Items

A. For Information and Discussion:

1. University of Hawai'i at Mānoa Update
 - a. Faculty Hiring: Strategy, Policy, and Comparative Data
 - b. Research and Innovation Metrics Targets and Goals
2. Overview of the Institute for Sustainability and Resilience
3. Evaluation of Student Innovation and Entrepreneurship Programs
4. Fiscal Year 2019 1st Quarter Extramural Awards Update

V. Adjournment

IV.A.1. University of Hawai'i at Mānoa Update

MATERIALS



UNIVERSITY
of HAWAII
SYSTEM

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Office of the Vice President for Research and Innovation

UH DTS #19182

RECEIVED

'18 NOV 19 P2:48

November 19, 2018

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 NOVEMBER 2018 MEETING

Please find attached the following materials that will be discussed at the November 27, 2018 BOR Committee on Research and Innovation meeting:

A. For Information & Discussion:

1. UH Mānoa Update (**VCR presentation*):
 - a) Faculty Hiring: Strategy, Plan, Policy and Comparative Data
 - b) Research and Innovation Metrics Targets and Goals: UH Mānoa Update
2. Institute for Sustainability and Resilience (**UHM presentation: Makena Coffman*)
3. Evaluation of Student Innovation and Entrepreneurship Programs (**OIC, OVCR, PACE presentation*)
4. FY19 Q1 Extramural Awards: Annual Proposed Targets (**VPRi presentation*)
 - a. FY19 Q1 Extramural Awards Analysis Report
 - b. FY19 Q1 Research and Innovation Metrics Summary
 - c. FY19 Monthly Report of Extramural Awards (as of September 30, 2018)

Attachments

UH Mānoa Update

Dr. Michael Bruno

Vice Chancellor for Research
Interim VC for Academic Affairs

Board of Regents R&I Committee
November 27, 2018

University of Hawai‘i at Mānoa

A Land-grant, Sea-grant, Space-grant and Sun-grant University

One of only 115 universities classified as Highest Research Activity, commonly referred to as “Research 1” or “R1” universities. UH Mānoa is one of only **81** public R1 universities in this elite group

Ranked by NSF as 77th among 900 universities and **49th** among 393 public universities in extramural research expenditures (\$305 million)

Ranked by NSF as 63rd overall and **39th** among public universities in level of Federal research expenditures

Among world’s top universities for publications (2017 Performance Ranking of Scientific Papers for World Universities; NTU Ranking) : **71st** in U.S., 204th in the world, 28th in Geosciences

Research @ Mānoa

- Research awards up by more than \$7 million (2.4%) from FY17 to FY18
- RTRF (based on FY18 research expenditures) up by \$2 million (to \$29 million) in FY19
- Note: first quarter FY19 research awards up by 14% over FY18
- Connecting research and student learning: the new OVCR Undergraduate Research Office is now staffed
 - In FY 17-18, the Undergraduate Research Opportunities Program awarded \$397,700 to 124 students from 32 unique majors for research/creative work projects & presentations
 - In FY 17-18, supported and sponsored Fall and Spring undergraduate research symposia, engaging 96 student participants from 32 unique majors campus-wide
 - Developed and sponsored new Summer Undergraduate Research Experience (SURE) Symposium (August, 2018; 59 student participants)

Research @ Mānoa

Faculty Hiring: Strategy, Policy, and Comparative Data

Strategic Faculty Recruitments

Overall Strategy:

Hire the right faculty in the right areas, and provide them with the support they need for success once they are here.

Policy regarding Research Faculty appointments:

- Effective May 16, 2017
- New R faculty recruitments/appointments or recruitments/appointments to fill existing “R” positions require prior approval by the Chancellor
- All such appointments include specific language related to expectations regarding teaching & advising, level of extramural research support, and scholarship
- Consistent with the overall UHM strategy of a stronger integration of the research and educational missions

Strategic Faculty Recruitments

Appointment Year	I3 9/11	I4 9/11	I5 9/11	R3	R4	R5
2013 (total = 35)	18	12	2	1	0	2
2014 (total = 38)	20	5	7	4	1	1
2015 (total = 25)	13	2	2	4	0	1
2016 (total = 38)	30	3	2	3	0	0
2017 (total = 66)	52	4	4	6	0	0
2018 (total = 51)	39	4	3	1	3	1

I – Instructor; R – Researcher (# identifies rank) 9/11: Includes 9 & 11-month appointments

For 2019, we have approved a total of 85 faculty hires (7 R)

Strategic Faculty Recruitments

Campus advancement in areas of Excellence and Relevance requires strategic hiring of faculty. Focused faculty hires in the last year have included:

- **Sustainability and Resilience:** 18 faculty, including 10 in SOEST, 4 in Social Sciences, 3 in Engineering, and 1 in CTAHR
- **Health Care and Medicine:** 14 faculty, including 5 in Cancer Center, 3 in Natural Sciences, 3 in Social Sciences, 1 in CTAHR, 1 in Engineering, and 1 in JABSOM
- **Data Sciences:** 7 faculty, including 2 in Computer Science, 2 in Biology, 2 in Math, and 1 in Botany
- **Materials Science and Engineering:** 6 faculty, including 4 in Engineering and 2 in SOEST

Sustained success will require campus-wide budget prioritization. On November 29, and 30 we will initiate a process – facilitated by external experts - aimed at establishing the UHM campus strategic priorities for investment.

Support for Faculty Research and Scholarship

- Strategic Investment Initiative: \$2.2 M
- RTRF deployment for faculty start-ups, research equipment, travel, matching funds & cost-share, and laboratory space/facilities
- External support from The Implementation Group (TIG) for proposal development and to enhance UHM's competitiveness for Federal funding:
 - ✓ Pre-submission technical assistance and proposal reviews for individual faculty and research teams; limited submissions reviews
 - ✓ Post-competition review and resubmission
 - ✓ Grant-writing workshops (NSF Career Award; Federal grant writing)
- Negotiating purchase of data analytic platform that provides tools to:
 - ✓ Find public and private funding opportunities for faculty or proposed initiatives; matching faculty with appropriate honorific awards
 - ✓ Find subject matter experts; foster teamwork by analyzing new and existing collaborative relationships; find scientists/scholars for research centers/institutes

RTRF Commitments For Mānoa By Category

PURPOSE	FY 2016		FY 2017		FY 2018	
Facilities - Equipment	1,433,609.00	14.42%	2,056,234.89	21.58%	1,258,215.00	14.21%
Cost Share	1,032,010.00	10.38%	7,967.00	0.08%	247,000.00	2.79%
Start Up	1,521,579.00	15.31%	2,947,624.50	30.93%	2,716,000.00	30.68%
Research Support	4,066,281.00	40.90%	2,595,192.21	27.23%	2,880,741.04	32.54%
Seminar	9,726.00	0.10%	42,572.48	0.45%	72,042.21	0.81%
Sinclair Library- Bond	337,474.00	3.39%	337,757.88	3.54%	426,655.81	4.82%
CMORE - Hale - Bond	1,540,480.00	15.50%	1,541,627.19	16.18%	1,251,506.14	14.14%
GRAND TOTAL	9,941,159.00		9,528,976.15		8,852,160.20	

Virtual Institutes

We are creating new campus-wide “virtual” institutes in areas of Excellence and Relevance.

Institutes will provide organizational coherence, external advisory input, strategic communication, and interdisciplinary support for curriculum and research across the entire campus. Faculty remain in existing academic units.

In FY18 we created:

- The Institute for Sustainability and Resilience
- Hawai'i Data Sciences Institute (a System-wide initiative)
- C-Maiki (Center for Microbiome Analysis through Island Knowledge and Investigation)

All three have already produced several proposals for external funding, as well as proposals for new certificate programs



How will we know if these strategies
and investments are working?

**“You can’t manage what you can’t
measure”**

(Michael Bloomberg, Mayor NYC)

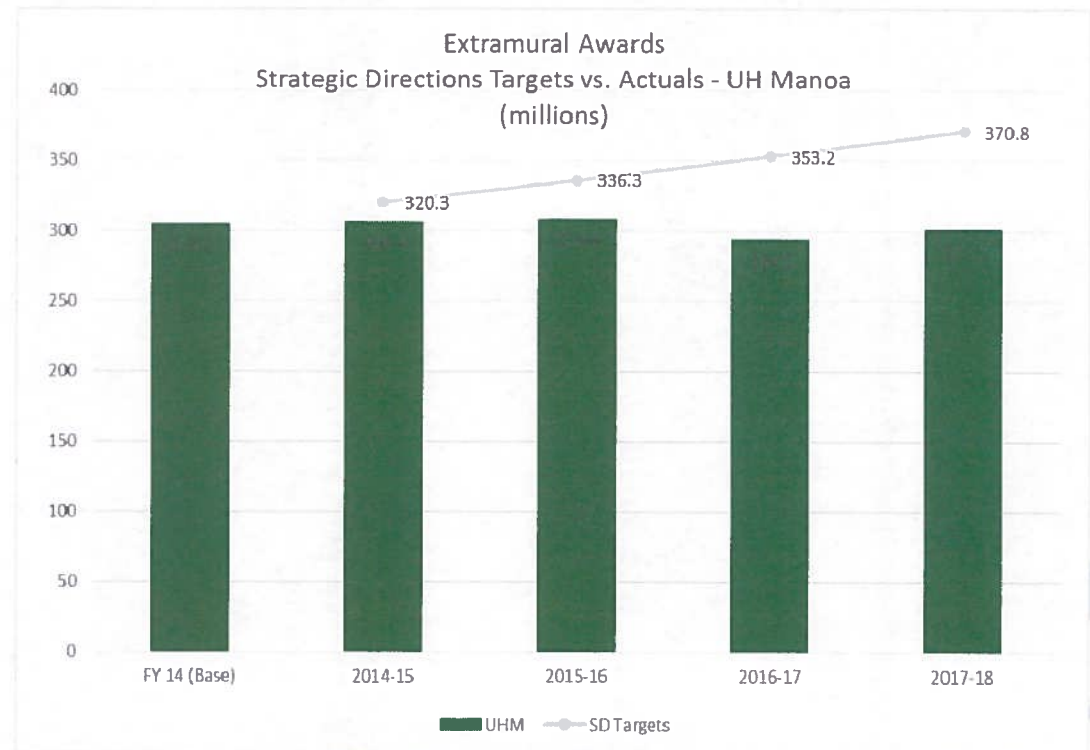
How will we know if these strategies and investments are working?

Present approach:

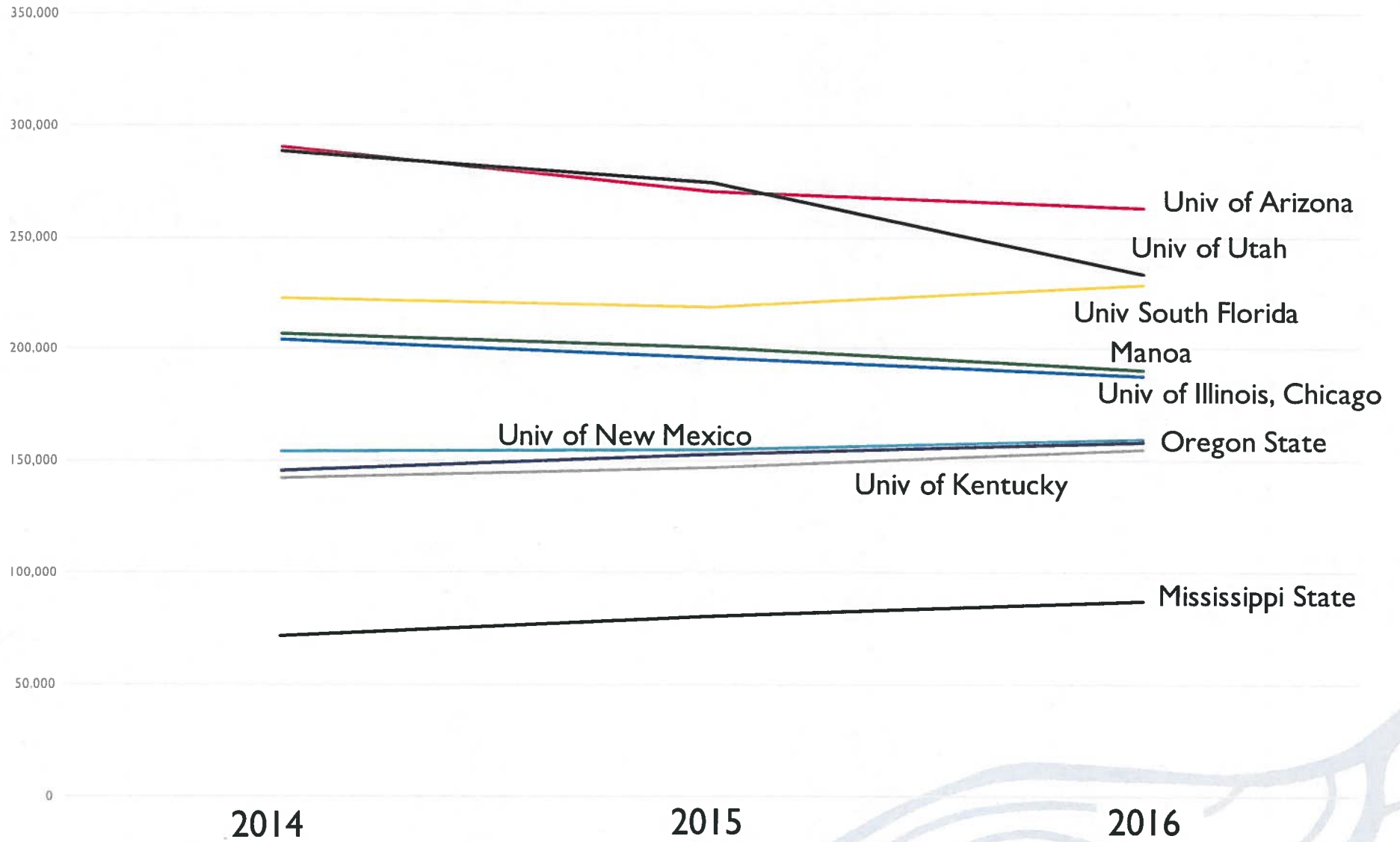
Examine year-over-year change in extramural awards

Base year: 2014

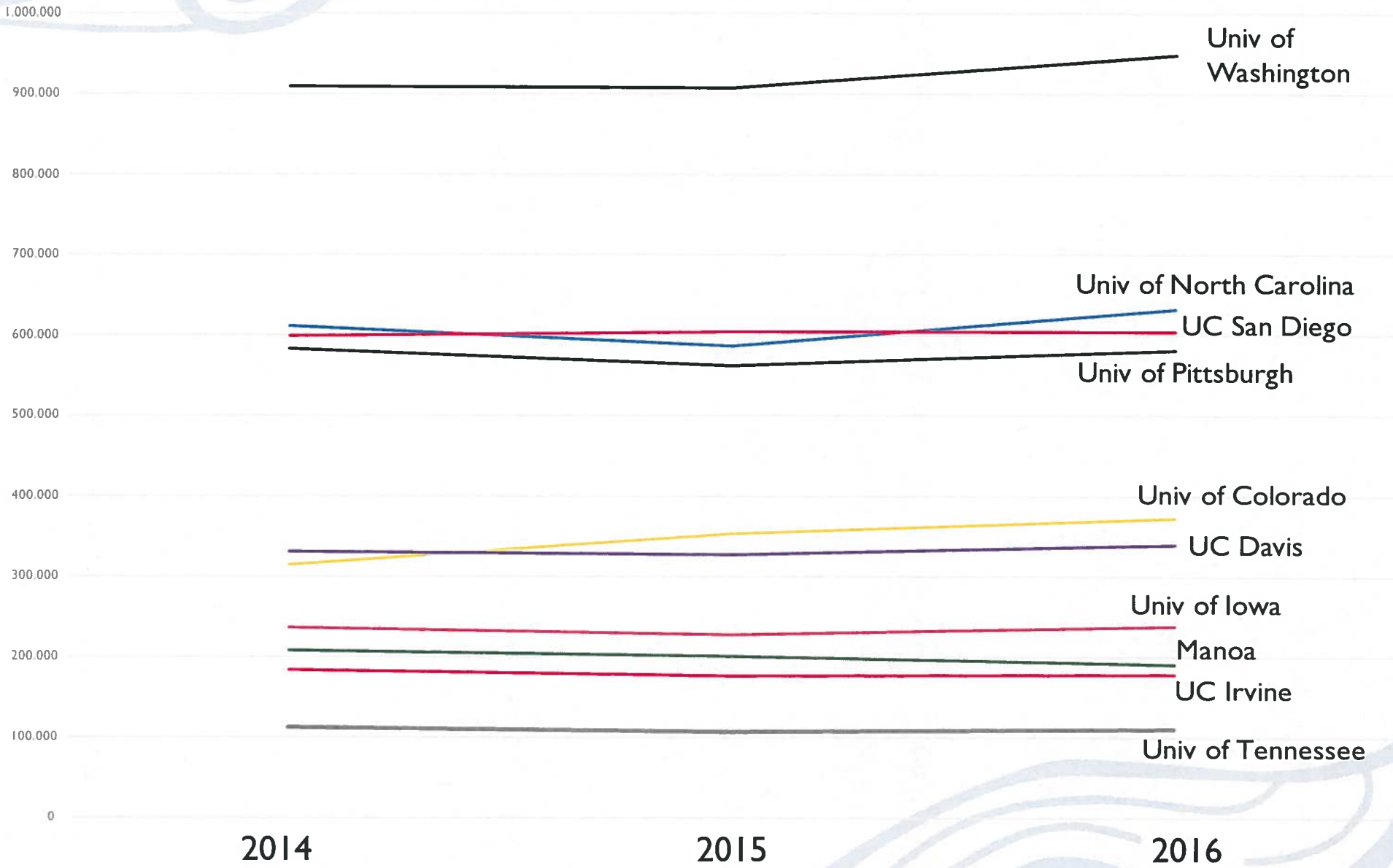
Target: 5% annual growth



Federal Research Expenditures, in \$1,000 – Peer Universities



Federal Research Expenditures, in \$1,000 - Benchmark Universities



How will we know if these strategies and investments are working?

Present approach: Examine year-over-year change in extramural awards/expenditures

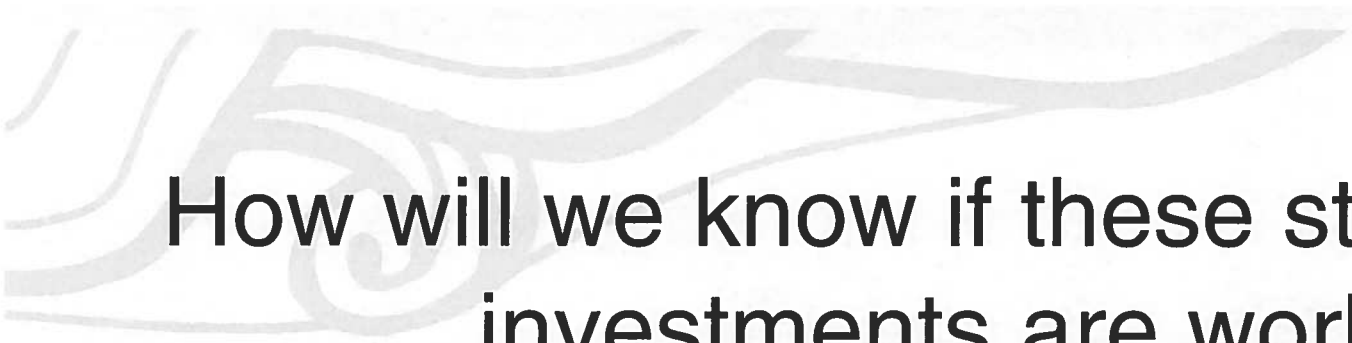
Challenge with this approach:

- It does not assess the **impact** of research & scholarship (R&S).
- Since most research funding (especially Federal) is based on peer-reviewed proposals, the volume of research funding can be utilized as an indicator of research **quality**. However, the availability of research funding varies across disciplines, with non-STEM fields among the most poorly funded by Federal and State agencies. The volume of research awards/expenditures in these disciplines **is therefore not a useful or fair indicator of the quality** of R&S.
- Most R1 universities and many ranking/analytic systems use multiple indicators to assess the impact or quality of R&S.

How will we know if these strategies and investments are working?

Proposed approach: Measure the impact/quality of research and scholarship using multiple indicators

- Extramural awards and expenditures
- Refereed publications
- Citations
- Faculty honors, awards, distinctions
- Number of undergraduate students engaged in faculty mentored research
- Existing technology transfer metrics



How will we know if these strategies and investments are working?

Proposed approach: Gather this information on a unit-by-unit basis in order to help guide investments and assess performance

Ideal: Performance assessment driven by peer comparisons in order to remove the influence of external factors (positive and negative) such as Federal funding levels

How will we know if these strategies and investments are working?

QS World University Rankings; Subject Area Rankings, February, 2018:

Subject Areas evaluated according to the following 4 metrics:

1. Global survey of academics
2. Global survey of employers
3. Research impact: Research citations per paper
4. Research impact: H-index in the relevant subject

How will we know if these strategies and investments are working?

2018 QS WORLD UNIVERSITY RANKINGS BY SUBJECT

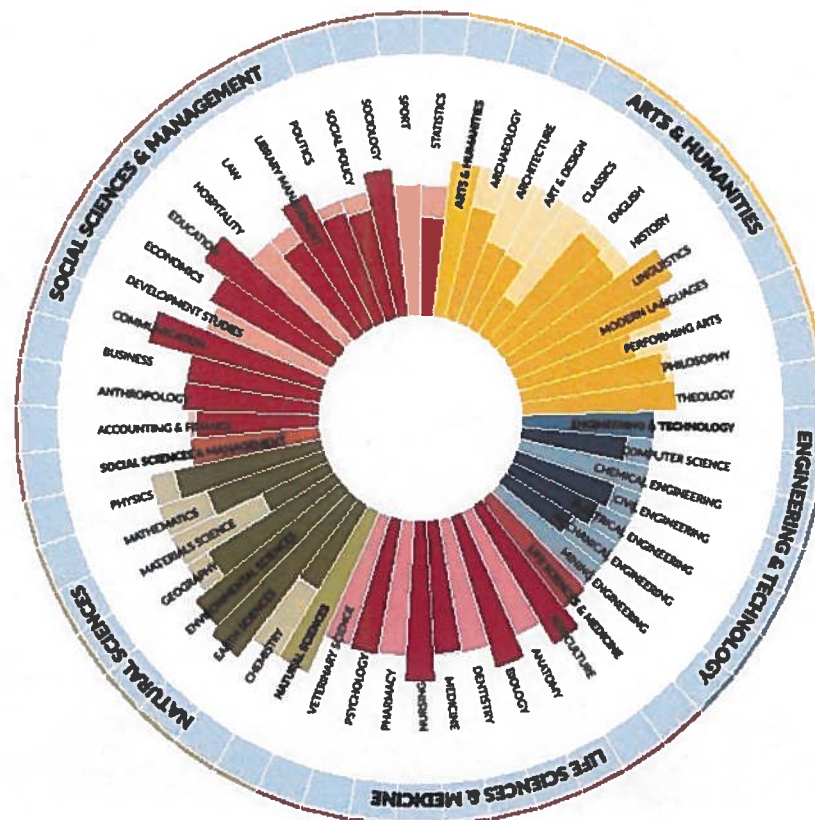
UNIVERSITY OF HAWAII AT M?NOA AT A GLANCE

RANKED IN **3** BROAD SUBJECT AREAS

SCORED IN **14** SUBJECTS

RANKED IN **14** SUBJECTS

TOP 100 FOR **2** SUBJECTS



- Arts & Humanities
- Engineering & Technology
- Life Sciences & Medicine
- Natural Sciences
- Social Sciences & Management

Lightly shaded areas indicate performance in the corresponding broad subject area

Appendix

June, 2018:

UH Manoa overall rank in U.S.: 60

UH Manoa rank in world: 302 out of more than 4,000

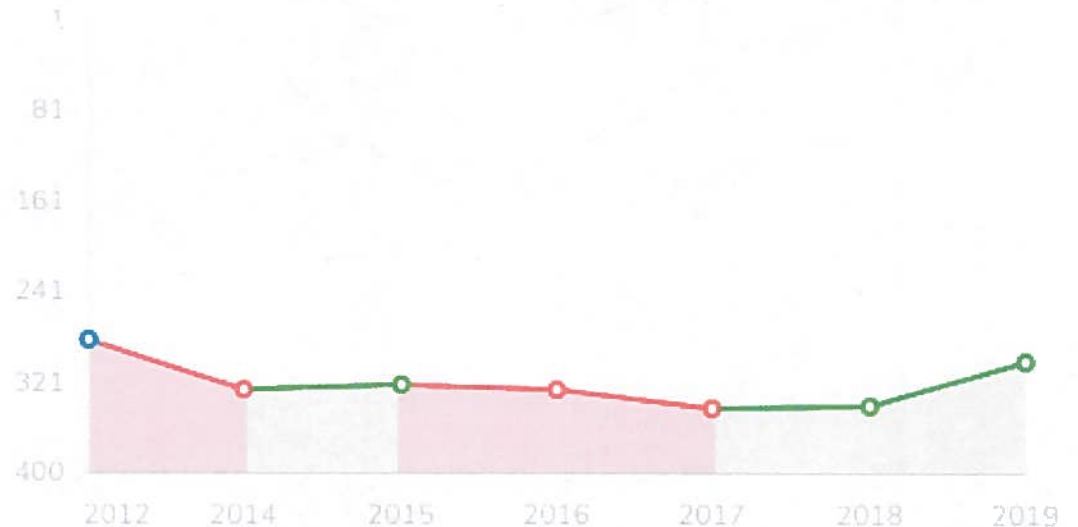
Evaluated according to the following six metrics:

- Academic Reputation
- Employer Reputation
- Faculty/Student Ratio
- Citations per faculty
- International Faculty Ratio
- International Student Ratio

QS World University Ranking

Chart

Data



Some Recent Research Highlights

- The Hawai'i Ocean Time-series (HOT) program received another \$9 million from the National Science Foundation, marking 30 years of support
- Building on initial UHM seed support, the C-MAIKI faculty team was awarded \$1 million from the W.M. Keck Foundation to establish a one-of-its-kind microbiology field observatory in the Waimea ahupua'a
- CTAHR was awarded another \$2.1 million from the USDA to support the Children's Healthy Living Program for Remote Underserved Minority Populations in the Pacific Region (following on \$25m initial grant)
- JABSOM was awarded \$11.2 million from NIH to create a Center of Biomedical Research Excellence in Diabetes
- Language Flagship Technology Innovation Center just renewed by DoD, building on the strongest language flagship program in the country



Status of the Organized Research Units

School of Ocean and Earth Science & Technology (SOEST): Includes four Departments and five Organized Research Units (HIGP, HIMB, HNEI, PBRC and Sea Grant).

- Consistently ranked among the top 5 schools in the nation in the marine sciences and geophysics.
- World-class research programs including oceanography, coral reef ecology, volcanology, remote sensing, cosmo-chemistry, renewable energy, tropical meteorology and climate modeling.
- The most advanced team of microbiome researchers in the nation, including 3 members of the National Academy. The Simons Collaboration on Ocean Processes and Ecology (SCOPE) is funded by the Simons Foundation at \$80 million.
- 15 degree programs; world-class facilities including numerous analytical laboratories, modeling & simulation; surface vessels and two advanced submersibles.

School of Ocean and Earth Science & Technology (SOEST): Includes four Departments and five Organized Research Units (HIGP, HIMB, HNEI, PBRC and Sea Grant). Data do not include PBRC:

- FY14: 870 employees; approximately **two of every three** supported by extramural funds.

Fiscal Year	2013	2014	2015
G+S+RTRF funds	\$29,569,441	\$29,596,855	\$29,469,362
Extramural	\$91,512,217	\$104,333,701	\$100,796,658
Extramural/State funds	3.1	3.5	3.4



Institute for Astronomy

- Fundamental research into the stars, planets, and galaxies that make up our Universe.
- Pan-STARRS and ATLAS observatories are providing the world's best early-warning system for dangerous asteroids
- The Mauna Kea Weather Center (MKWC) was created to provide custom forecasts for the observatories. Recently, MKWC adapted its computer programs to predict the dispersion of Vog from the Kilauea volcano, at no cost to the State.
- All tenure track and tenured Research faculty in the IfA have an obligation to teach. This has made possible the development of one of the largest and most highly ranked astronomy graduate programs in the nation. Recently the IfA faculty in close cooperation with the College of Natural Sciences initiated two popular undergraduate programs in Astronomy and Astrophysics.



Institute for Astronomy:

- 224 employees, **3 out of every 4** supported by extramural funds.

Fiscal Year	2013	2014	2015
G+S+RTRF funds	\$10,985,934	\$11,340,434	\$11,008,735
Extramural	\$21,687,757	\$23,748,509	\$22,227,055
Extramural/State funds	2.0	2.1	2.0



How do We Compare?

- **Florida Solar Energy Center, University of Central Florida**
 - Created by the Florida Legislature in 1975
 - photovoltaics, electric vehicles, smart grid technology, energy efficient buildings, alternative transportation fuels, tech transfer & education.
 - Receives \$3 million in state operating funds
 - Five-year average extramural funding = \$7.9 million
 - Ratio of Extramural/State funds = 2.6
- **Institute for Geophysics, University of Texas**
 - Founded in 1972
 - 50 employees
 - climate, energy, marine geosciences & tectonics, and planetary & polar geophysics.
 - Receives \$2 million in state operating funds and \$9 million in extramural
 - Ratio of Extramural/State funds = 4.5



How do We Compare?

- **Rutgers Coastal Ocean Observational Lab**
 - **Leading university in the development and utilization of unmanned underwater systems, high frequency RADAR systems, and high-resolution ocean and weather computer forecast systems.**
 - **Funding from NSF, NOAA, ONR, others**
 - **36 employees, including 5 faculty assigned to the Lab**
 - **Approximately \$9 million in extramural funding in FY15**
 - **University funding:**
 - **9-month salaries for 5 faculty. These faculty all teach 2+ courses/yr**
 - **12-month salaries for 2 administrative support staff**
 - **Average of 2 post-doctoral scholars per year**
 - **Minimum return of 10% IC (can be as high as 30%)**



How do We Compare?

- **University of California Observatories (UCO)**
 - **Operates the Lick Observatory on behalf of all UC campuses**
 - **Designs/fabricates instrumentation for Lick and Keck Observatories**
 - **Facilitates UG & G instruction & training throughout the UC system**
 - **Located on the UC Santa Cruz campus**
 - **190 employees**
 - **Extramural funding: \$11 million/year ave over 5 years (2006-2010)**
 - **100% State support for core staff (7 engineers, 15 staff specialists)**
 - **100% State support for 14 tenure-track faculty:**
 - **80% support via UCO budget (Office of the President)**
 - **20% support via UC Santa Cruz budget in return for teaching 1 class per year in the UCSC Department of Astronomy & Astrophysics**



How do We Compare?

- **We are not unique in providing university salary support for research faculty.**
- **We are not unique in having research centers that are not fully engaged in the university's educational mission, *although that is changing!***
- **We appear to be rather unique in providing tenure to Research faculty, although we are not alone in this regard (e.g., UCO). There are institutions (e.g., Woods Hole Oceanographic Institution) that grant tenure to grant-supported researchers.**



UNIVERSITY of HAWAI'I at MĀNOA

INSTITUTE *for* SUSTAINABILITY *and* RESILIENCE

Makena Coffman

Institute for Sustainability and Resilience, Director

Urban and Regional Planning, Professor



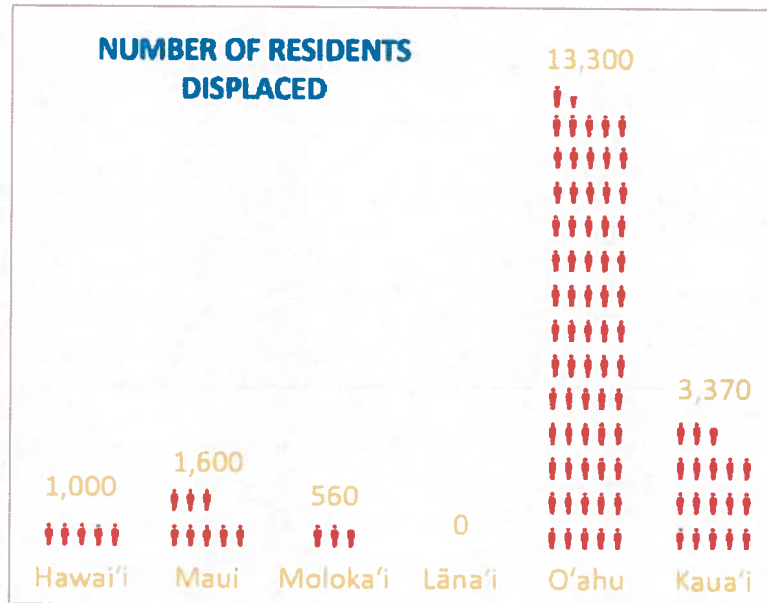
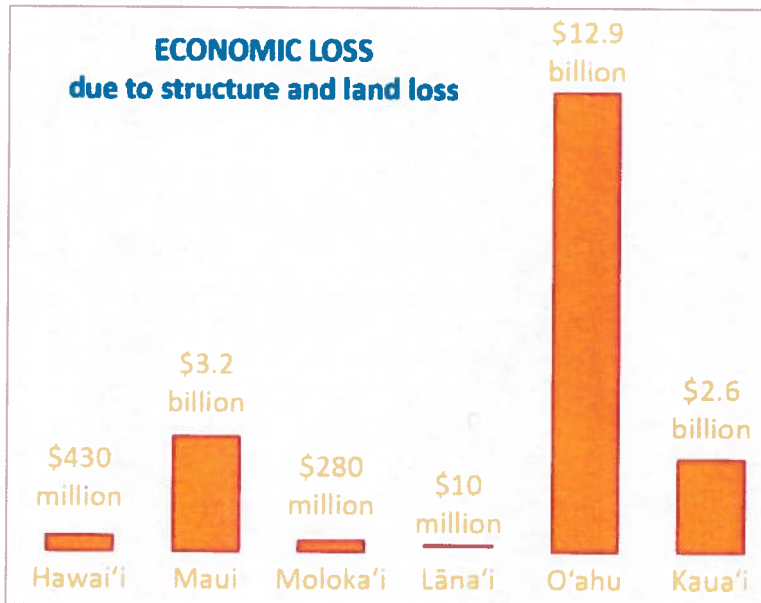
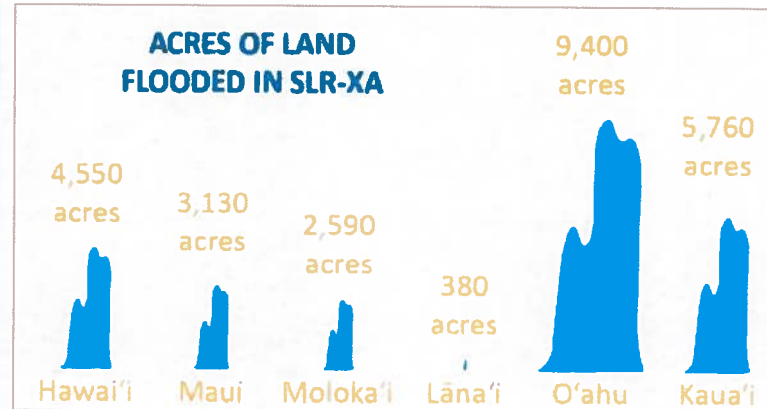
- ISR's mission is to help Hawaii meet our local and global obligations to environmental sustainability, with an emphasis on promoting well-being from the lens of community resilience
- ISR provides a campus-wide focus for instructional, research and outreach programs relating to sustainability and resilience in Hawaii

POTENTIAL IMPACTS
STATE-WIDE SUMMARY

Hazard | **Sea Level Rise Exposure Area**

Impact | **Chronic Flooding**

Scenario | **3.2 feet of Sea Level Rise**



Source: State of Hawaii Sea Level Rise Vulnerability and Adaptation Report

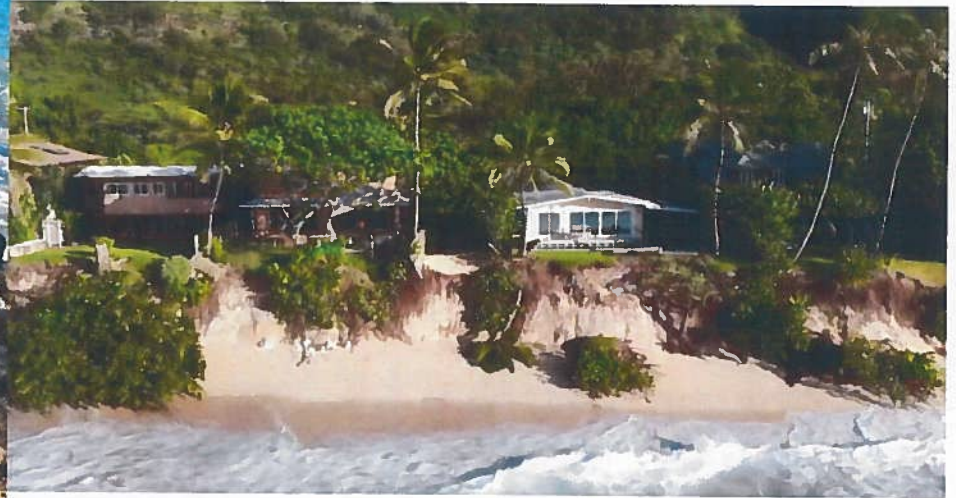
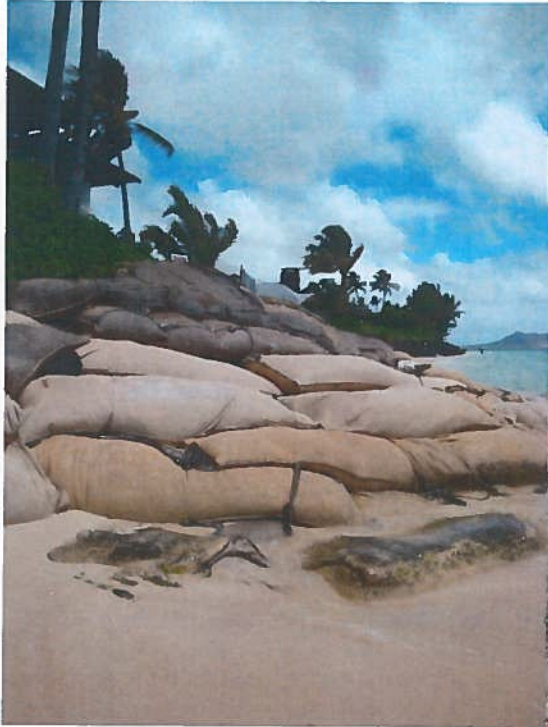


Photo Credit: Chip Fletcher & Makena Coffman

Multiple “Cluster” Hires

- SeaGrant – Coastal Resilience Sustainability Team (CReST)



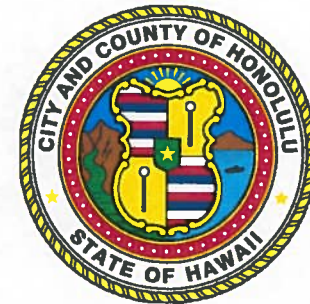
- Hui ‘Aina Momona



- College of Social Science Sustainability



City and County of Honolulu Climate Change Commission



[Back to list of subjects](#) **Click on the CRN for additional class information.**

Sustainability (SUST)

<u>en. Ed./ ocus</u>	<u>CRN</u>	<u>Course</u>	<u>Section</u>	<u>Title</u>	<u>Credits</u>	<u>Instructor</u>	<u>Curr. Enrolled</u>	<u>Seats avail.</u>	<u>Days</u>
B	89393	SUST 112	001	Intro Environment & Sustain	3	M Cooney	10	0	MWF
Q	89396	SUST 113	001	Quantifying Environmental Chng	3	G Ravizza	10	4	MWF
	89691	SUST 114	001	Sustainable Cities	3	L Sichter	10	12	TR
GA	89399	SUST 115	001	Sustainability Changing World	3	M Guldry	40	4	TR
P	89404	SUST 120	001	Chemistry in Sustainable World	3	K Gary	6	44	TR
B	89411	SUST 210	001	Intro to Environmental Science	3	J Uchida	4	33	TR
B,HAP,WI	89413	SUST 211	001	Ag, Environment, & Society	3	N Lincoln	9	1	MW F
Please note that the original W Focus section, SUST 211 002, has been cancelled. A new section 003 has been cre HAP Focus requirement only.									
B,HAP	90024	SUST 211	003	Ag, Environment, & Society	3	N Lincoln	5	13	MW F
I,WI	89414	SUST 217	001	Hawn Perspectives in Ahupua'a	3	S Kikilo'i	0	1	MW
S	89415	SUST 220	001	Agricultural & Resource Econ	3	L Cox	0	23	TR
Y	89416	SUST 221	001	Organic Food Crop Production	2	T Radovich	9	11	M M
TH	89363	SUST 310	001	Conservation Ethics	1	D Drake	0	2	W
TH	89737	SUST 310	002	Conservation Ethics	1	D Drake	2	2	W
TH	89738	SUST 310	003	Conservation Ethics	1	D Drake	1	0	W
S,ETH	89417	SUST 312	001	Natural Resource & Env Policy	3	K Carlson	4	1	MW
S,ETH	89570	SUST 318	001	Race, Indigeneity, Environment	3	L Mei-Singh	7	9	MW



**SUSTAINABLE DEVELOPMENT
SOLUTIONS NETWORK**
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

LOCAL 2030

Global Resilience Research Network

Last Thoughts. ISR...

- Builds on strengths
- Focuses on implementation
- Enhances Student Experiences and Prepares the Solution-Makers of NOW

Mahalo!
Questions



UH Innovation & Commercialization:

Student Innovation and Entrepreneurship

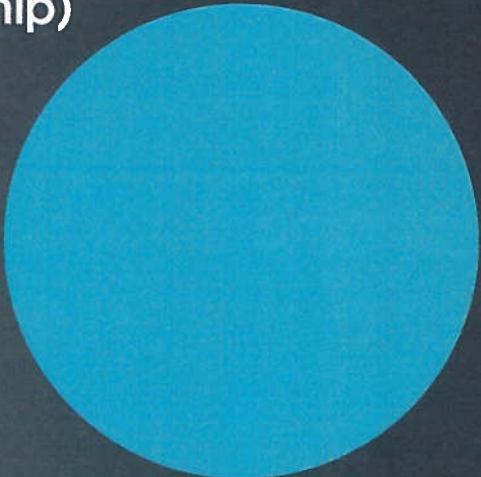
FOSTERING A COMMUNITY VISION TO ELEVATE HAWAII'S IE PLATFORM

* Enabled by Act 38 & Act 39 of 2017

Progress on Existing Programs

2

Maximizing UH Assets in iE (innovation & Entrepreneurship)

- ▶ UH Inventions
 - ▶ PACE (Pacific Asian Center for Entrepreneurship)
 - ▶ iLAB
 - ▶ UH Spinoff Support: XLR8UH
 - ▶ New UH System-wide Initiatives
 - ▶ iE Community Gathering (Monthly HI-END meetings)
 - ▶ innovate@Mānoa (professional development speaker series)
 - ▶ NSF i-Corps Application (in preparation)
- 

UH Inventions → Products/Services

3

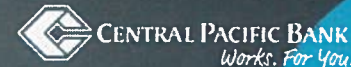
- ▶ Invention Disclosures/year: Steady stream of 40s ~ 50s per year
- ▶ Patent Filing (non-provisional)/year: between 12 (2016) and 19 (2018)
- ▶ Licenses & Options Executed/year: between 3 (2015) and 14 (2018)
- ▶ Royalty Revenue/year: between \$119K (2014) and \$408K (2016)
- ▶ Notable Products with UH Technologies:
 - ▶ Adnoviv: intelligent “occupancy sensing” technology (better than infrared)
 - ▶ Jun Innovations: freezing w/o ice crystals or cell damage for food/bio samples
 - ▶ KinetiCor: image correction for MRI medical images (partnered with Siemens)
 - ▶ Spectrum Photonics: detection & remote sensor sys for chem/bio detection
 - ▶ Diagenetix: low-cost, portable diagnostic tool for pathogen detection

Pacific Asian Center for Entrepreneurship: Educating Entrepreneurial Thinkers

4

Summary 2018 Impact Metrics

- \$135,617 student awards
- 153 professional volunteers
- 683 hours of mentorship
- 79 student events



UNIVERSITY
of HAWAII
SYSTEM



UNIVERSITY of HAWAII SYSTEM
INNOVATION. INSPIRATION. IMPACT. ENLIGHTENING HAWAII.



ISLAND INSURANCE
COMPANIES



PACE Program Impact

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Program	2018 Impact	Since 2010
UH Breakthrough Innovation Challenge	29 teams	369 participants
In-sPACE Events (new)	1648 student check-ins	n/a
UH Business Plan Competition	29 competing teams	671 participants
Summer Startup Launchpad	12 teams/33 applicants	102 participants
Freeman Fellowship	4 fellows	16 (since 2016)
Entrepreneurship Live Speaker Series	171 students	1811 students
Professional-in-Residence/VPIR	90 students	864 students
Shidler Entrepreneur Coursework	Enrollment +82%	~4000 students trained

Other PACE Programs Benefiting Students 6

- Family Business Center of Hawai'i (70+ members)
- PACE Faculty Fellows
- Hoku Scientific Microloan Program
- Entrepreneurs Practicum
- PACE Grants Program
- Professional Workshops



iLAB: Innovation Ecosystem at UH

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XLR8UH is a four month startup accelerator program with two sessions each calendar year.



Office of the Vice President for Research and Innovation

Office of the Vice President for Research and Innovation is responsible for the management of UH-developed technology assets.



The iLAB serves as the student innovation "playground".



SPACE is an on-campus collaborative workspace for housed within the Pacific Asia Center for Entrepreneurship (PACE).



UH FabLab is a collaborative workspace encouraging free thought and innovation.

iLAB: FY18 Highlights

8

- ▶ Completed renovations and upgrades
- ▶ Students attending all iLAB events = 3875 (non-unique)
- ▶ Faculty attending all iLAB events in the last year = 466 (non-unique)
- ▶ 40 workshops
- ▶ 6 student initiated projects

iLAB: Mind Hawai'i (Medical Innovation and Design)

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- ▶ Two semester long program, student run, faculty and community supported.
- ▶ Previous years enrollment: 28 students, 10 teams
 - Students from ME, EE, JABSoM, MBBE, Chemistry, and Health Sciences
- ▶ Sponsored by: College of Engineering, Koa Technologies, UH-OVCR, JABSoM, KMCWC, Abby Vara Endowment Fund, and ImpactHub
- ▶ Judges from: USPTO, JABSoM, HPH, KMCWC, PACE, and UH
- ▶ This years enrollment: 32 students, 9 teams
 - Students from CE, MED, Chem, BioChem, EE, Biology, MBBE, Nursing, Comp Eng, Shidler



iLAB: FY19 Program/Project Development

10

- ▶ eSports development: System-ACM and iLAB collaboration.
- ▶ Engineering students: VR/AR workflow development, meLAB support.
- ▶ MoCap: 6 camera system from LAVA Lab to support animation projects.
- ▶ Website development: New website and Social media accounts.
- ▶ innovate@Mānoa: Partnering with OVPRI, UHCDC and Outreach College in new workshop and seminar series.

iLAB: FY19 Program/Project Development cont.

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- ▶ Open Source Lab: Community collaboration.
 - ▶ Collaboration with Library: Digital Humanities and Open Source Lab support planned.
 - ▶ Social Innovation: Grand challenges format planned.
 - ▶ Agricultural Innovation workshops and projects.
 - CTAHR alumni and community members already engaged and workshops planned.
- 

XLR8UH: accelerator, with seed funding

12

- ▶ Reviewed 501 Team Applications from UH Innovators over 3 Years
- ▶ 24 Teams Graduated from Accelerator over 3 Years
- ▶ Over 100 cofounders Received Accelerator Training & Support
- ▶ Each Team Received \$50K; Some Received Up To \$175K Funding
- ▶ 2 Companies Received Upside Fund's Investment (up to \$300K)
- ▶ Recognized by Forbes a top 30 accelerators in the US (June 2017)

New Mission: Create Community Impact

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Position UH to be Catalyst of iE Community in Hawai'i

- ▶ Connecting Technologies with Community: **Future Focus**, 4th Year
- ▶ Exploring Successful Models: **Study Trip to UCSF/Stanford** (Sept-2018)
- ▶ "HI-END" **Monthly Community Gathering** for iE Stakeholders
- ▶ **Innovation Certificate** Program: a new education paradigm
- ▶ Preparing for **NSF i-Corps Application**, as a Community
- ▶ **NELHA Accelerator** (with HSDC) for Aquaculture Innovations
- ▶ New Infrastructure: **Atherton Innovation Cluster; Mānoa Innovation Center**

Future Focus Conference : Connects Innovations with Community

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4th Year of Showcasing UH Innovations & Networking with Community

- ▶ 2015 Theme: energy, cybersecurity and entrepreneurship
- ▶ 2016 Theme: medical research, cybersecurity and entrepreneurship
- ▶ 2017 Theme: astronomy, space exploration, cybersecurity and disaster management – launching CyberHawai`i, a partnership for “cybersecurity-ecosystem” to defend Hawai`i against cyberattacks.
- ▶ 2018 Theme: Sustainable Ag, food security, cybersecurity - featuring presidents of the three Hawaii universities discussing the preparation for an innovation economy

HI-END: Monthly iE Community Mtgs

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- ▶ HI-END: Hawai'i Innovation & Entrepreneurship Network Developers
- ▶ Routine, Monthly Gatherings to Share Info on Programs & Resources
- ▶ Diverse Community Attendees

Blue Startups	Mana Up	DBEDT
HiBEAM	Elemental Excelerator	Sultan Ventures
Hawai'i Tourism Authority	HTDC	UH Mānoa's Outreach College
PACE	Hawai'i Pacific Univ.	Hawai'i Public Radio
UH Mānoa Chancellor's office	UH OTT	Oceanit . . .

innovate@Mānoa

16

- ▶ Collaboration with VPRI/OIC, Outreach College, Mānoa OVCR, Architecture School
- ▶ Series of Lectures + Experiential Component
 - World Class Speakers to Cover Key Concepts of Innovation Management
 - Small, Bite-Size (1.5 hours each) Lectures Require No Prerequisites (No Barriers)
 - To Benefit ALL Interested Students of ALL Majors
- ▶ Non-credit certificate in development
- ▶ Future Series Planned: Data Analytics, Computer/Mobile Programming
 - To Also Include Community Colleges, in Online + Offline Format

NSF i-Corps Application (in preparation)

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- ▶ NSF i-Corps Sites Cover 80+ Universities to Offer Entrepreneurship Training
- ▶ UH Sys, with all Campuses, Is Putting Together an Application in Spring 2019
- ▶ With Community Colleges, Reaching Wide & Deep into the Entire State
- ▶ Expected Outcome:
 - Help Students Excel in Non-Traditional Setting, Regardless of Their GPA
 - Collaborative Learning Paradigm: by Doing Projects in Teams
 - Experiment in Edu: Bite Size, Self-Driven, Non-Credit Units
 - Sustainable Platform with Local Instructors to Carry On beyond 3-Year Program

FY19 Q1 Extramural Awards Analysis

BOR Committee on Research and Innovation
November 27, 2018



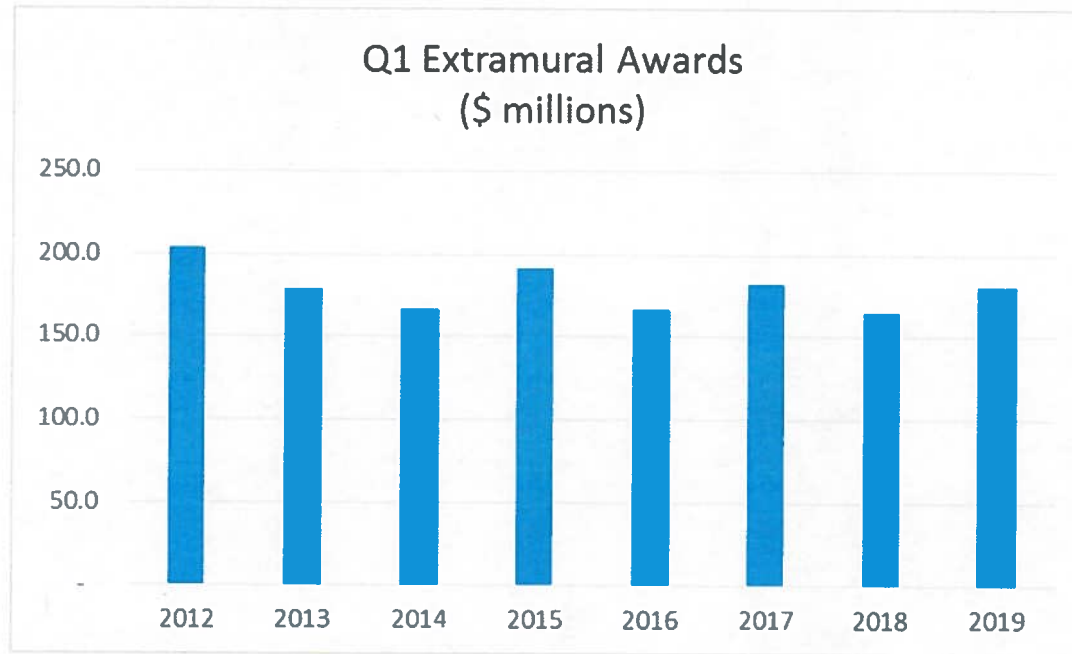
UNIVERSITY
of HAWAII
SYSTEM

Overview

- FY19 Q1 Recap
- Significant Awards by Campus
- Award Amounts by Location
- Actuals vs. Forecasts

FY19 Q1 Recap

- FY19 Q1 total is \$180.5 million, which is 9.7% more than FY18 Q1 total of \$164.5 million.
- FY19 Q1 performance is on par with FY17 Q1 and underscores predictable patterns in UH funding
- Based on past performance, FY 19 is conservatively estimated to result in \$386.7 million in awards



	2012	2013	2014	2015	2016	2017	2018	2019
Q1	203.2	178.1	166.5	191.1	165.8	181.8	164.5	180.5
Q2	47.5	74.8	74.7	77.0	56.9	59.5	62.0	--
Q3	45.3	56.7	55.4	52.8	66.2	67.1	71.0	--
Q4	139.9	100.1	95.7	104.8	102.4	78.6	88.8	--
FY	435.9	409.8	392.3	425.7	391.3	387.0	386.3	180.5



FY19 Q1 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



Q1 Amounts by Location (\$ millions)

Campus	2016	2017	2018	2019	2019-18 Change
Mānoa	122.2	129.7	112.6	128.9	14.5%
Hilo	7.0	6.0	7.5	8.9	18.6%
West O'ahu	5.2	5.4	5.1	3.0	-40.5%
Hawai'i CC	0.0	0.0	0.4	0.2	-59.8%
Honolulu CC	2.0	2.2	1.0	0.8	-16.9%
Kapi'olani CC	3.5	4.7	3.7	3.1	-16.5%
Kaua'i CC	1.0	2	0.9	0.7	-22.8%
Leeward CC	3.1	3.6	3.0	2.6	-12.0%
Maui College	7.2	3.9	9.7	8.2	-15.4%
Windward CC	4.2	6.5	5.8	5.6	-4.7%
UH System	10.4	17.9	14.8	18.5	25.1%
TOTAL	165.8	181.9	164.5	180.5	9.7%



Major Changes by Location

- UH Mānoa increase:
 - Attributed to seven awards over \$1 million:

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
TOTAL			\$16,086,373

Major Changes by Location

- UH Hilo increase:
 - Attributed to two new federal awards in FY19 Q1:
 - 1) \$755,000 from Department of Defense, and
 - 2) \$449,730 from National Science Foundation

Major Changes by Location

- UH Maui College decrease:
 - Attributed to two National Science Foundation awards totaling \$1.7 million received in FY18 Q1. No comparable awards were received in FY19 Q1.
- UH System increase:
 - Attributed to the \$5.8 million Department of Defense award received through the Applied Research Lab



Major Changes by Location

- UH West O'ahu decrease:
 - Attributed to a combination of factors:
 - 1) Timing of a Department of Education award increment; \$859,000 will be received in FY19 Q2, while last year it was received in FY18 Q1.
 - 2) Four awards from various sponsors totaling \$1.1 million were received in FY19 Q1. No comparable awards were received in FY18 Q1.

Actuals vs. Forecasts (\$ millions)

- Overall results for FY19 Q1 were about \$10.4 million more, or 6.1% than forecasted.
- Based on past performance, we will maintain the conservative estimate of \$386.7 million for FY19.

FY 2019	Forecast	Actual	Variance
Q1	170.1	180.5	6.1%
Q2	59.2	—	TBD
Q3	67.8	—	TBD
Q4	89.6	—	TBD
Total	386.7	180.5	



FY19 Q1 Extramural Awards Report

I. Summary

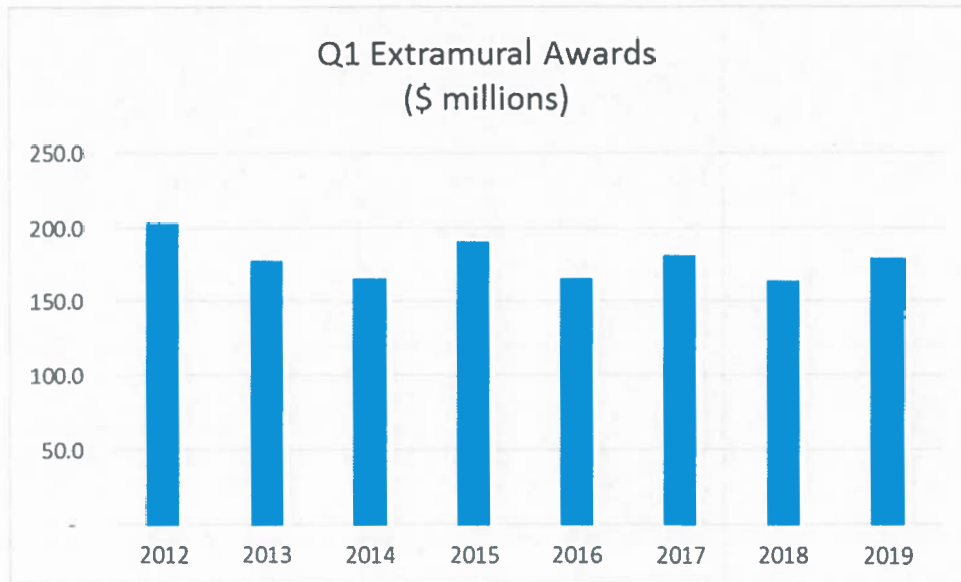
Extramural awards for the first quarter of FY19 totaled \$180.5 million, which was around \$16 million (9.7%) more than FY18 Q1, and \$10.4 million more than the FY19 Q1 forecast (6.1%). However, based on past performance, we are maintaining the conservative estimate of \$386.7 million for FY 19.

II. Quarterly Performance Metrics

Extramural awards for FY19 Q1 were more than FY18 Q1 by around \$15.9 million (9.6%). The performance was on par with FY17 Q1 and underscores the predictable pattern that has developed with respect to University of Hawai'i (UH) funding.

Quarterly Extramural Awards
\$ millions

	2012	2013	2014	2015	2016	2017	2018	2019
Q1	203.2	178.1	166.5	191.1	165.8	181.8	164.5	180.5
Q2	47.5	74.8	74.7	77.0	56.9	59.5	62.0	--
Q3	45.3	56.7	55.4	52.8	66.2	67.1	71.0	--
Q4	139.9	100.1	95.7	104.8	102.4	78.6	88.8	--
FY	435.9	409.8	392.3	425.7	391.3	387.0	386.3	180.5



III. Significant Awards by Campus

During FY19 Q1, UH received 682 awards from 205 different sponsors. The following table reports the largest awards received this quarter by campus. As expected, the vast majority of awards are federally funded, and includes the Department of Human Services award, which is a passthrough award from the U.S. Department of Health and Human Services.

This is the third Q1 in a row that the largest awards for the following campuses were the same: UH West O’ahu, Kapi’olani Community College, Kaua’i Community College, Leeward Community College, and Windward Community College. This represents repeat, stable funding. The \$5.2 million award in UH Mānoa may be the only new large award over \$5 million.

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 ¹	Federal	Department of Defense	Extended Research Support to the U.S. Navy Wave Energy Test Site (WETS)	5,820,895

IV. Award Trends by Campus

Award totals for the first quarter of FY 2019 were more than the same time last year by about 9.7%.

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.

Q1 Award Amounts by Location
\$ millions

Campus	2016	2017	2018	2019	2019-18 Change²
Mānoa	122.2	129.7	112.6	128.9	14.5%
Hilo	7.0	6.0	7.5	8.9	18.6%
West O'ahu	5.2	5.4	5.1	3.0	-40.5%
Hawai'i CC	0.0	0.0	0.4	0.2	-59.8%
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Kapi'olani CC	3.5	4.7	3.7	3.1	-16.5%
Kaua'i CC	1.0	2	0.9	0.7	-22.8%
Leeward CC	3.1	3.6	3.0	2.6	-12.0%
Maui College	7.2	3.9	9.7	8.2	-15.4%
Windward CC	4.2	6.5	5.8	5.6	-4.7%
UH System	10.4	17.9	14.8	18.5	25.1%
TOTAL	165.8	181.9	164.5	180.5	9.7%

Major dollar increases and decreases are attributed as follows:

- The UH Mānoa increase is attributed to seven awards over \$1 million.

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
TOTAL			\$16,086,373

- The UH Hilo increase is attributed to two new federal awards received in FY19 Q1. One award from the Department of Defense for \$755,000, and another award from the National Science Foundation for \$449,730.
- The UH West O'ahu decrease is attributed to:
 - 1) Timing of a Department of Education award increment in which \$859,000 will be received in FY19 Q2, while last year it was received in FY18 Q1.
 - 2) Four awards from various sponsors totaling \$1.1 million were received in FY18 Q1 with no comparable awards received in FY19 Q1.
- The UH Maui College decrease is attributed to two National Science Foundation awards totaling \$1.7 million that was received in FY18 Q1 with no comparable awards received in FY19 Q1.

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

- The UH System increase is attributed to the \$5.8 million Department of Defense award received through the UH Applied Research Laboratory (ARL).

V. Forecast vs. Actuals

The overall results for FY19 Q1 is about \$10.4 million (6.1%) more than forecasted. Based on past performance, we will maintain the conservative estimate of \$386.7 million for FY19.

FY 2019	Forecast	Actual	Variance
Q1	170.1	180.5	6.1%
Q2	59.2	—	TBD
Q3	67.8	—	TBD
Q4	89.6	—	TBD
Total	386.7	180.5	

Extramural Sponsor Awards Quarterly Summary

<u>Program Type</u>	Jul 1 - Sep 30 2018		Jul 1 - Sep 30 2017	
	<u>Count</u>	<u>Amount</u>	<u>Count</u>	<u>Amount</u>
Research	367	\$ 96,105,819	382	\$ 82,199,663
Non-Research	315	\$ 86,116,682	300	\$ 84,482,097
<u>Total</u>	<u>682</u>	<u>\$182,222,501</u>	<u>682</u>	<u>\$166,681,760</u>

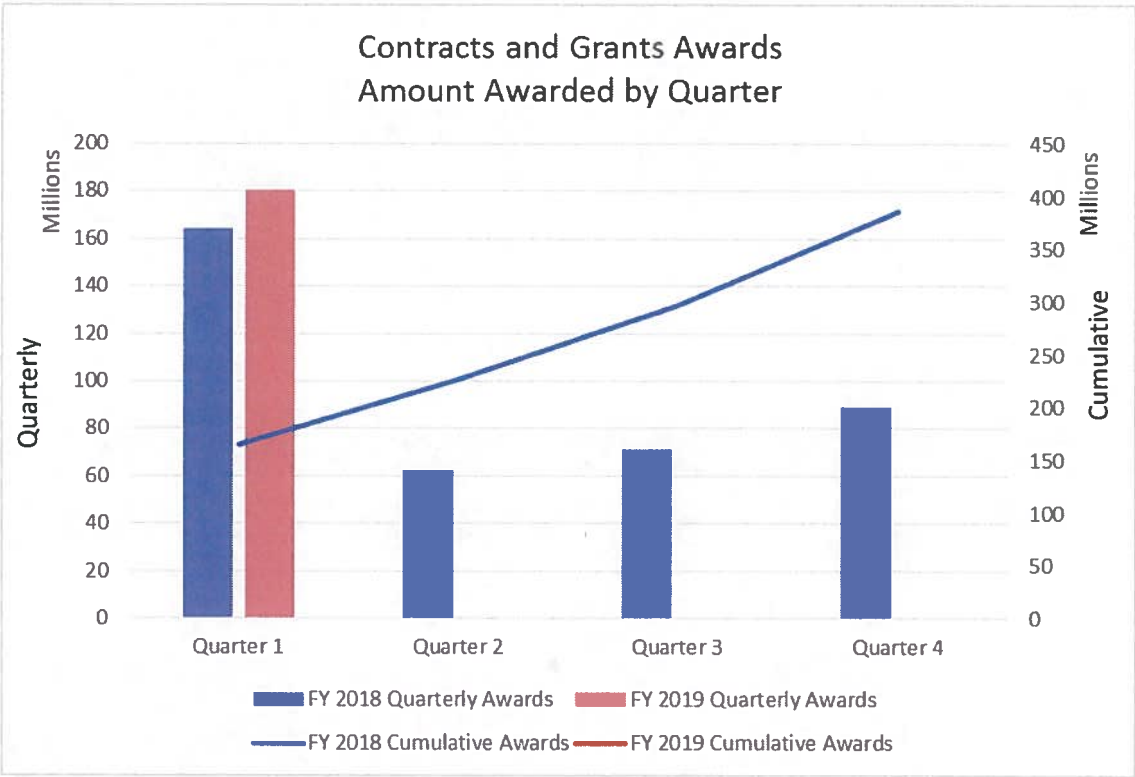
Note: The detailed award listing is available at:

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

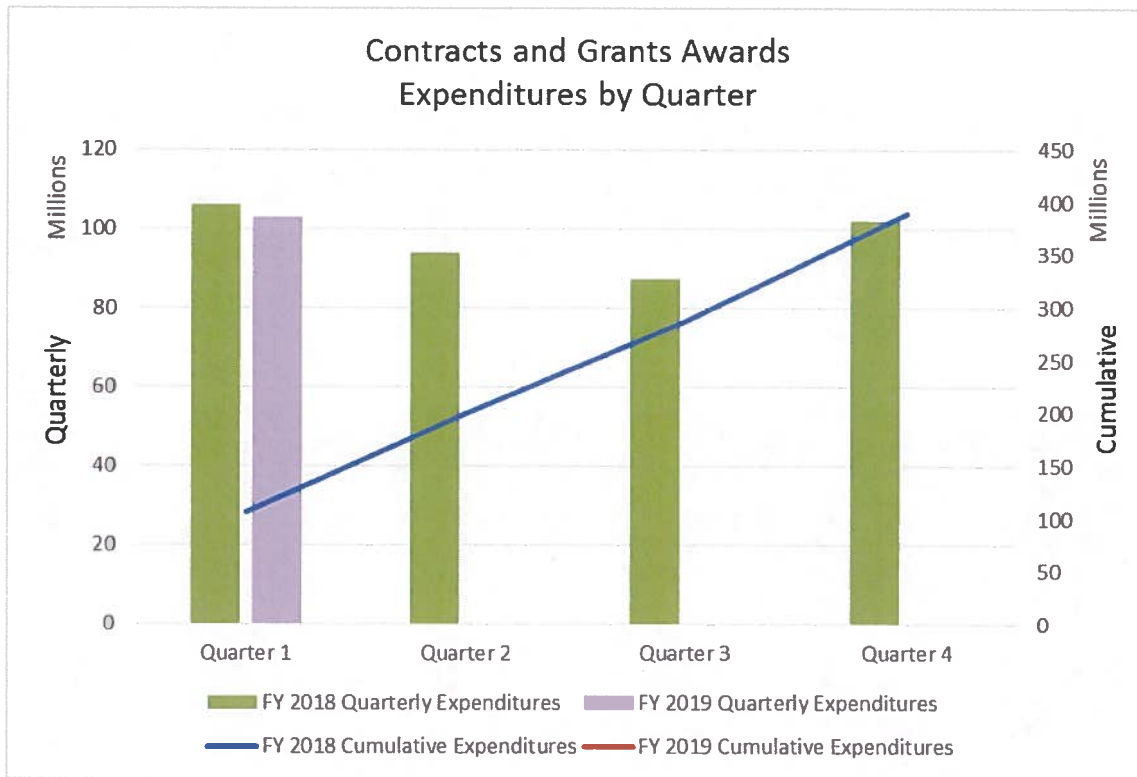
The FY 2018 year-to-date total was: \$164,493,372

The unofficial FY 2019 year-to-date total is: 682 awards totaling
\$180,524,507

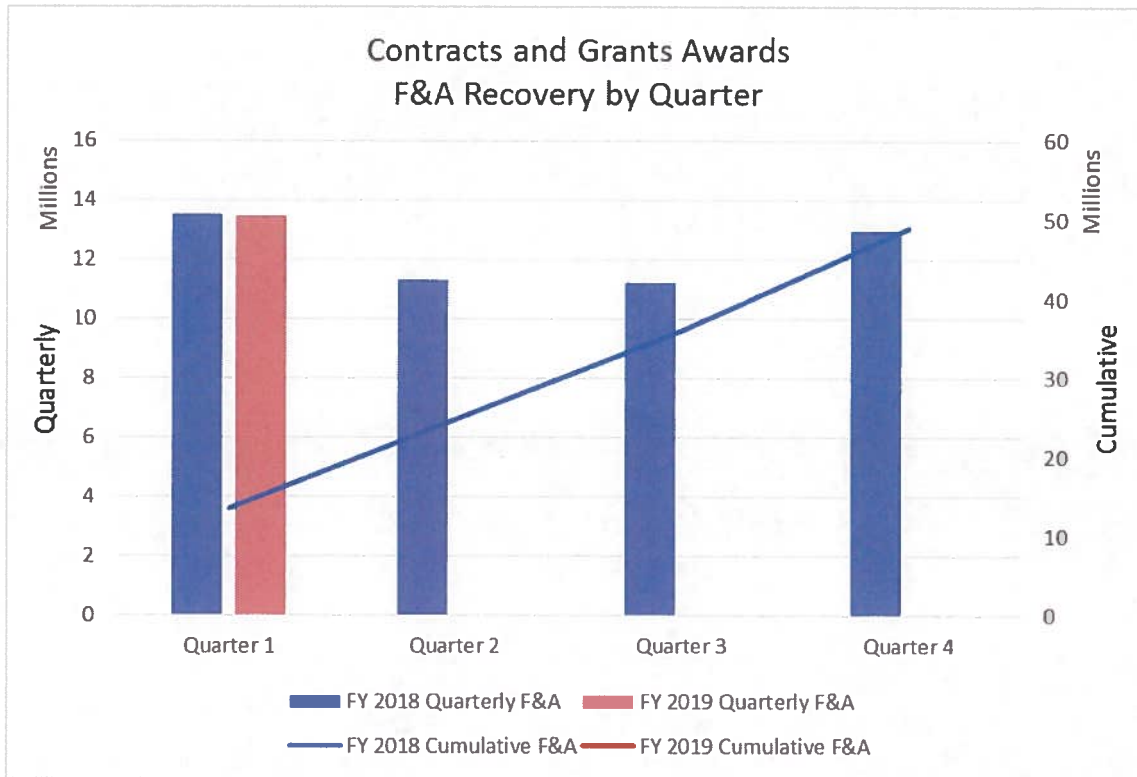
Contracts and Grants Awards
As of Quarter One – FY 2019



Contracts and Grants Expenditures
As of Quarter One – FY 2019



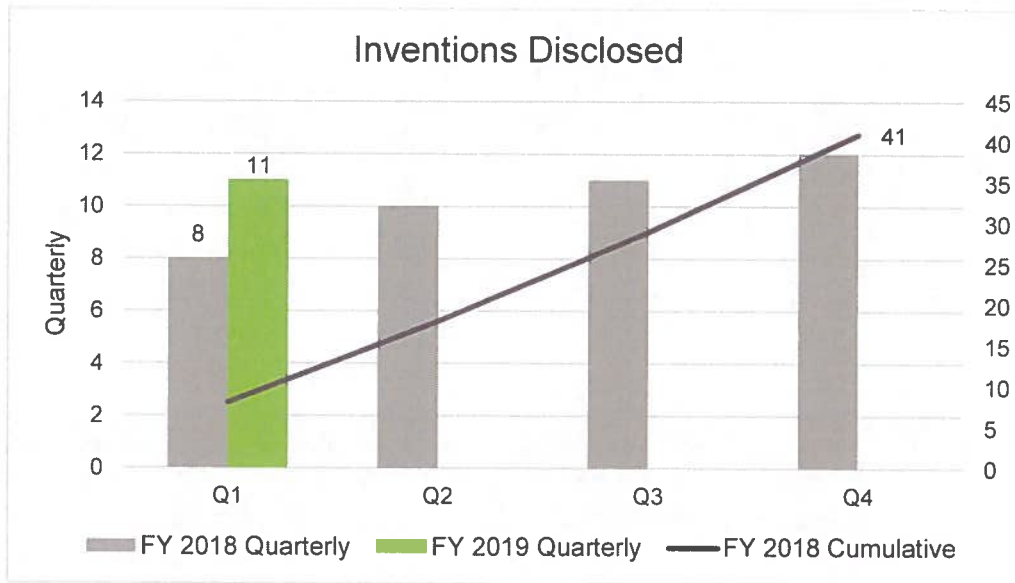
Contracts and Grants F&A Recovery
As of Quarter One – FY 2019



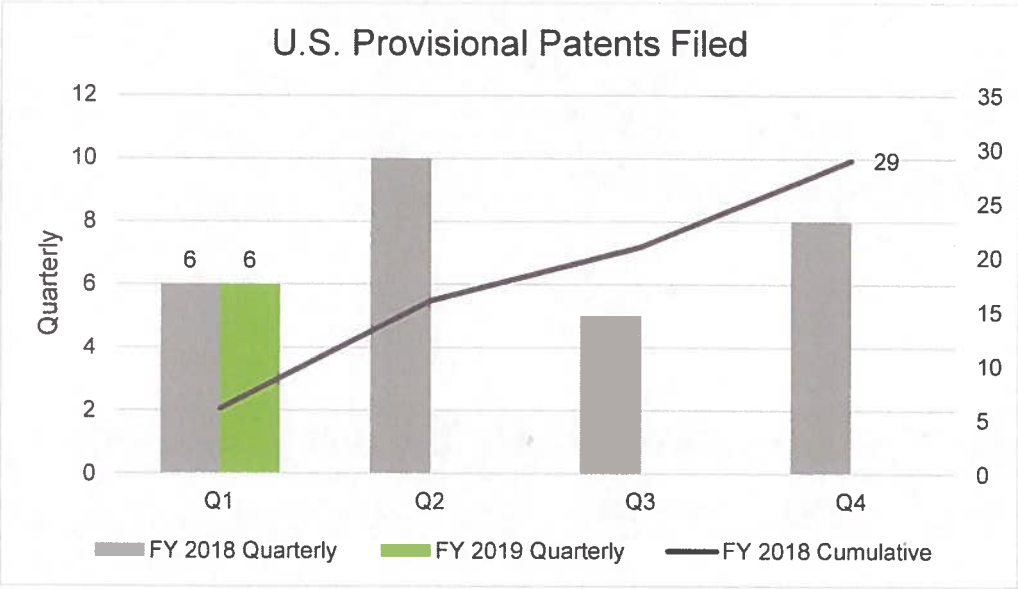
**OTT Research & Innovation Metrics
FY 2019 – First Quarter Summary**

<u>Metric</u>	FY 2019 <u>7/1/18 – 9/30/18</u>	FY 2018 <u>7/1/17 – 9/30/17</u>
Invention Disclosures	11	8
U.S. Provisional Patents Filed	6	6
U.S. Non-Provisional Patents Filed	6	8
U.S. Non-Provisional Patents Issued	2	0
License & Option Agreements Executed	3	3
Active License & Option Agreements	117	109
Royalty Revenue	\$30,963.64	\$7,246.82
Start-Ups	0	0

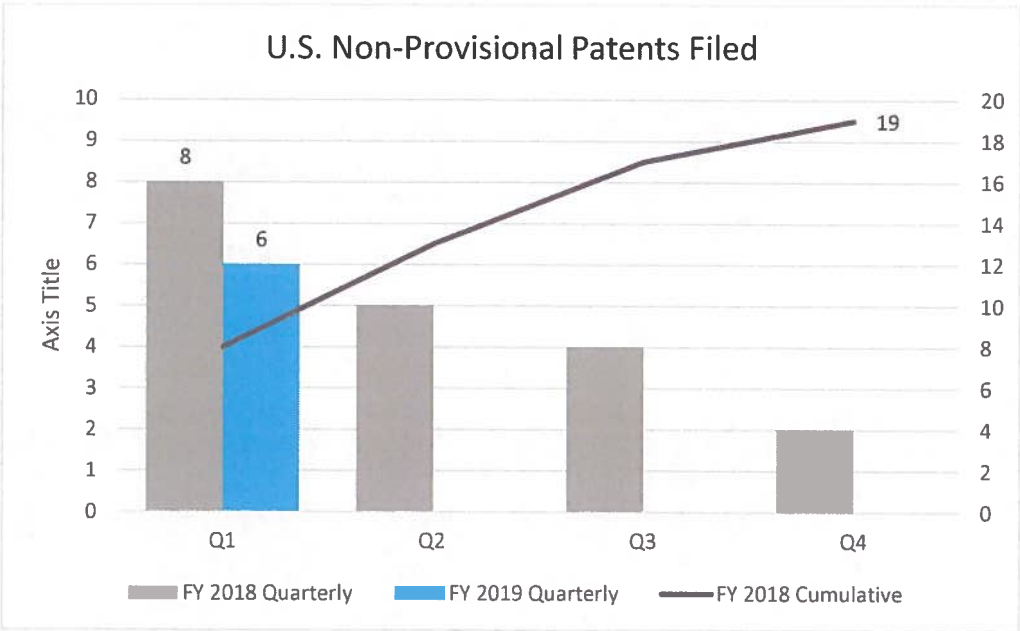
Invention Disclosures
As of Quarter One – FY 2019



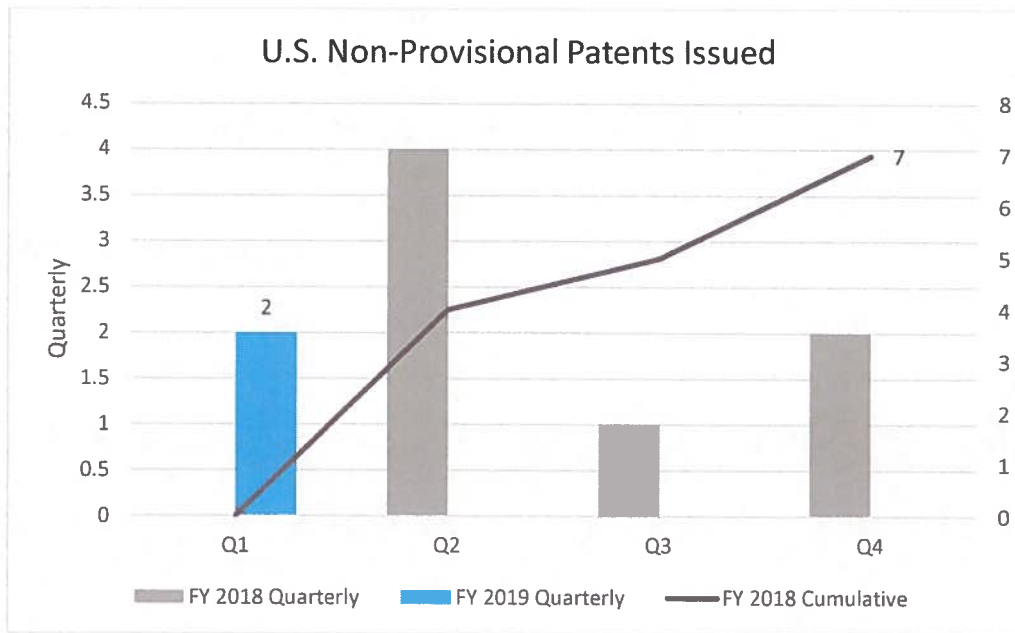
U.S. Provisional Patents Filed
As of Quarter One – FY 2019



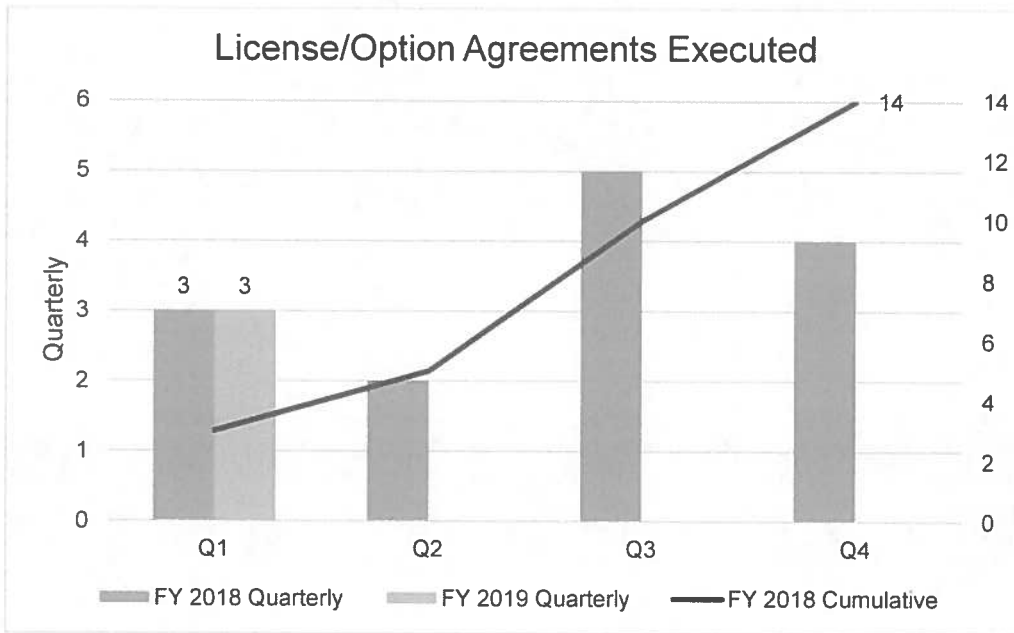
U.S. Non-Provisional Patents Filed
As of Quarter One – FY 2019



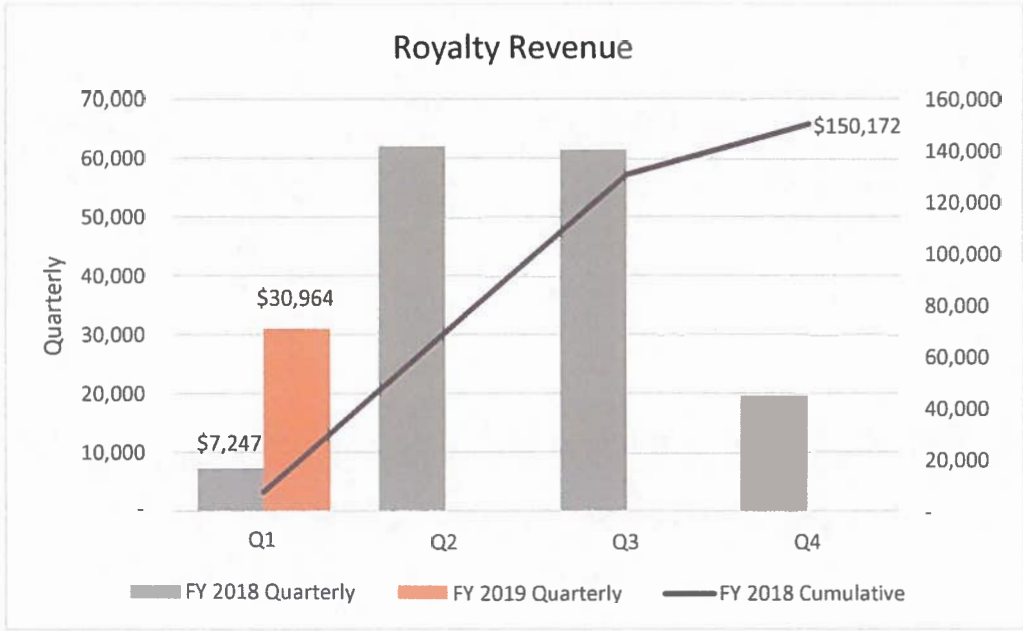
U.S. Non-Provisional Patents Issued
As of Quarter One – FY 2019



License/Option Agreements
As of Quarter One – FY 2019



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



FY 2019 Monthly Report of Awards to Date as of September 30, 2018						
Summary By Campus						
Campus	FY 2018		FY 2019		\$ Change	% Change
	Award Count	Award Amount	Award Count	Award Amount		
Hawai'i Community College	3	434,919	1	175,000	(259,919)	-59.8%
Honolulu Community College	4	951,167	3	790,865	(160,302)	-16.9%
Kapi'olani Community College	9	3,705,770	5	3,095,636	(610,134)	-16.5%
Kaua'i Community College	3	877,867	1	677,868	(199,999)	-22.8%
Leeward Community College	4	3,007,777	4	2,657,989	(349,788)	-11.6%
University of Hawai'i Maui College	19	9,730,282	15	8,199,119	(1,531,163)	-15.7%
Windward Community College	12	5,866,248	12	5,592,697	(273,551)	-4.7%
Subtotal Community Colleges and UH Maui College	54	24,574,030	41	21,189,174	(3,384,856)	-13.8%
University of Hawai'i at Hilo	65	7,486,410	51	8,879,371	1,392,961	18.6%
University of Hawai'i at Manoa	528	113,846,555	555	129,729,144	15,882,589	14.0%
University of Hawai'i at West O'ahu	11	5,147,044	7	3,032,434	(2,114,610)	-41.1%
University of Hawai'i System	24	15,627,721	28	19,392,378	3,764,657	24.1%
Grand Total	682	166,681,760	682	182,222,501	15,540,741	9.3%
FY 2019 Monthly Report of Awards to Date as of September 30, 2018						
Campus Details						
Campus	FY 2018		FY 2019		\$ Change	% Change
	Award Count	Award Amount	Award Count	Award Amount		
Hawai'i Community College	3	434,919	1	175,000	(259,919)	-59.8%
Chancellor, Hawaii Community College	3	434,919	1	175,000	(259,919)	-59.8%
Academic Affairs (Hawaii CC)	2	384,919	-	-	(384,919)	-100.0%
Office of Continuing Education & Training	1	50,000	-	-	(50,000)	-100.0%
Honolulu Community College	4	951,167	3	790,865	(160,302)	-16.9%
Chancellor, Honolulu Community College	4	951,167	3	790,865	(160,302)	-16.9%
Academic Affairs (Honolulu CC)	1	576,039	1	517,252	(58,787)	-10.2%
Chancellor, Honolulu Community College	2	325,128	1	253,461	(71,667)	-22.0%
Pacific Center for Advanced Technology Training	-	-	1	20,152	20,152	100.0%
University College	1	50,000	-	-	(50,000)	-100.0%
Kapi'olani Community College	9	3,705,770	5	3,095,636	(610,134)	-16.5%
Chancellor, Kapiolani Community College	9	3,705,770	5	3,095,636	(624,598)	-16.9%
Chancellor, Kapiolani Community College	3	2,841,211	3	2,591,369	(249,842)	-8.8%
Culinary Arts (KCC)	2	132,756	-	-	(132,756)	-100.0%
Emergency Medical Services	2	389,480	1	149,480	(240,000)	-61.6%
Office for Institutional Effectiveness	1	2,000	-	-	(2,000)	-100.0%
Student Support Services	1	340,323	1	354,787	14,464	4.3%
Kaua'i Community College	3	877,867	1	677,868	(199,999)	-22.8%
Chancellor, Kauai Community College	3	877,867	1	677,868	(199,999)	-22.8%
Chancellor, Kauai Community College	3	877,867	1	677,868	(199,999)	-22.8%
Leeward Community College	4	3,007,777	4	2,657,989	(349,788)	-11.6%
Chancellor, Leeward Community College	4	3,007,777	4	2,657,989	(349,788)	-11.6%
Chancellor, Leeward Community College	4	3,007,777	3	2,583,775	(424,002)	-14.1%
Hawaiian Studies (Leeward CC)	-	-	1	74,214	74,214	100.0%
University of Hawai'i at Hilo	65	7,486,410	51	8,879,371	1,392,961	18.6%
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	7	526,513	5	436,667	(89,846)	-17.1%
College of Agriculture, Forestry and Natural Resource Mgt	4	255,454	4	159,873	(95,581)	-37.4%
Pacific Aquaculture and Coastal Resources Ctr	3	271,059	1	276,794	5,735	2.1%
College of Arts and Sciences	12	1,214,878	14	3,164,542	1,949,664	160.5%
Anthropology (UH Hilo)	-	-	1	600,000	600,000	100.0%
Biology (UH Hilo)	3	240,527	-	-	(240,527)	-100.0%
College of Arts and Sciences	1	300,000	1	329,995	29,995	10.0%
Geography (UH Hilo)	1	165,000	3	412,435	247,435	150.0%
Marine Science	1	24,373	3	583,805	559,432	2295.3%
Mathematics (UH Hilo)	1	7,000	-	-	(7,000)	-100.0%
Natural Sciences Division	3	282,466	3	973,532	691,066	244.7%
Physics and Astronomy	1	95,512	1	34,608	(60,904)	-63.8%
Social Sciences Division	1	100,000	1	50,000	(50,000)	-50.0%
Tropical Conservation Biology and Environmental Science	-	-	1	180,167	180,167	100.0%
College of Continuing Education and Community Svc	1	7,750	-	-	(7,750)	-100.0%
College of Continuing Education and Community Svc	1	7,750	-	-	(7,750)	-100.0%
College of Pharmacy	5	123,660	4	100,921	(22,739)	-18.4%
College of Pharmacy	2	36,260	1	31,260	(5,000)	-13.8%
Pharmaceutical Sciences	2	47,400	1	30,000	(17,400)	-36.7%
Pharmacy Practice	1	40,000	2	39,661	(339)	-0.8%
Imiloa Astronomy Center Of Hawaii	4	174,645	2	115,978	(58,667)	-33.6%
Imiloa Astronomy Center Of Hawaii	4	174,645	2	115,978	(58,667)	-33.6%
Ka Haka'Ula O Ke'Elilikani-UHH	3	1,574,437	3	1,005,908	(568,529)	-36.1%
Hale Kuamo'o Center	1	634,437	1	763,918	129,481	20.4%
Ka Haka'Ula O Ke'Elilikani-UHH	2	940,000	2	241,990	(698,010)	-74.3%
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	19	1,131,322	13	1,612,675	481,353	42.5%
Vice Chancellor for Research	19	1,131,322	13	1,612,675	481,353	42.5%

FY 2019 Monthly Report of Awards to Date as of September 30, 2018							
Campus Details							
Campus	FY 2018		FY 2019		\$ Change	% Change	
	Award Count	Award Amount	Award Count	Award Amount			
Vice Chancellor for Student Affairs	9	1,047,740	9	1,593,855	546,115	52.1%	
Center For Gifted And Talented Native Hawaiian Children	1	44,800	1	56,466	11,666	26.0%	
Vice Chancellor for Student Affairs	8	1,002,940	8	1,537,389	534,449	53.3%	
University of Hawai'i at Manoa	528	113,846,555	555	129,729,144	15,882,589	14.0%	
College of Arts and Humanities	8	330,325	8	212,371	(117,954)	-35.7%	
American Studies	2	104,618	-	-	(104,618)	-100.0%	
Art and Art History	-	-	2	18,052	18,052	100.0%	
History (UH Manoa)	1	52,777	1	5,000	(47,777)	-90.5%	
Music (UH Manoa)	1	5,930	1	3,218	(2,712)	-45.7%	
Philosophy (UH Manoa)	1	150,000	1	1,000	(149,000)	-99.3%	
Religion (UH Manoa)	-	-	1	14,101	14,101	100.0%	
UHM Uehiro Academy for Philosophy and Ethics in Education	3	17,000	2	171,000	154,000	905.9%	
College of Education	18	4,240,380	33	10,695,092	6,454,712	152.2%	
Center on Disability Studies/University Affiliated Pgms	9	2,506,372	18	5,111,790	2,605,418	104.0%	
College of Education	2	265,000	1	7,357	(257,643)	-97.2%	
Curriculum Research and Development Group	2	330,103	7	1,436,575	1,106,472	335.2%	
Department of Educational Psychology	-	-	1	1,026	1,026	100.0%	
Department of Kinesiology and Rehabilitation Science	2	230,500	2	305,510	75,010	32.5%	
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	12	1,882,869	17	2,521,266	638,397	33.9%	
Civil and Environmental Engineering	7	1,000,709	2	429,598	(571,111)	-57.1%	
College of Engineering	2	749,160	1	604,710	(144,450)	-19.3%	
Electrical Engineering	-	-	3	389,112	389,112	100.0%	
Hawaii Center for Advanced Communications	-	-	1	100,032	100,032	100.0%	
Mechanical Engineering	3	133,000	10	997,814	864,814	650.2%	
College of Language, Linguistics and Literature	16	1,361,084	7	1,092,939	(268,145)	-19.7%	
Center for Language and Technology	2	16,339	1	156,000	139,661	854.8%	
College of Language, Linguistics and Literature	1	174,700	-	-	(174,700)	-100.0%	
Department of East Asian Languages and Literature	3	917,073	2	893,606	(23,467)	-2.6%	
Department of English	3	6,200	-	-	(6,200)	-100.0%	
Department of Linguistics	6	246,260	2	19,316	(226,944)	-92.2%	
Department of Second Language Studies	-	-	2	24,017	24,017	100.0%	
Dept of Languages and Literatures of Europe and the Americas	1	512	-	-	(512)	-100.0%	
College of Natural Sciences	73	7,062,436	60	12,939,706	5,877,270	83.2%	
College of Natural Sciences	-	-	1	526,991	526,991	100.0%	
Department of Biology (Biology Program)	5	739,495	7	2,360,664	1,621,169	219.2%	
Department of Botany	50	5,090,767	37	8,366,562	3,275,795	64.3%	
Department of Chemistry	4	260,028	4	544,228	284,200	109.3%	
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	7	494,915	3	148,000	(346,915)	-70.1%	
Information and Computer Sciences	3	190,346	5	678,169	487,823	256.3%	
College of Social Sciences	30	8,770,104	35	10,940,292	2,170,188	24.7%	
College of Social Sciences	-	-	3	238,612	238,612	100.0%	
Department of Anthropology	1	226,267	2	148,955	(77,312)	-34.2%	
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%	
Psychology (UH Manoa)	3	1,082,845	3	871,356	(211,489)	-19.5%	
School of Communications	1	5,000	2	240,990	235,990	4719.8%	
Social Science Research Institute	13	1,803,877	14	1,977,094	173,217	9.6%	
Urban and Regional Planning	3	5,162,000	3	6,717,000	1,555,000	30.1%	
College of Tropical Agriculture and Human Resources	49	5,711,889	50	6,388,599	676,710	11.8%	
Center on the Family	2	230,000	1	10,000	(220,000)	-95.7%	
College of Tropical Agriculture and Human Resources	6	703,867	4	1,335,001	631,134	89.7%	
Cooperative Extension	3	716,464	1	279,092	(437,372)	-61.0%	
Family and Consumer Sciences	2	130,647	1	40,000	(90,647)	-69.4%	
Hawaii County	3	471,608	5	506,445	34,837	7.4%	
Human Nutrition, Food and Animal Sciences	3	87,439	6	513,009	425,570	486.7%	
Maui County	2	153,197	1	53,940	(99,257)	-64.8%	
Molecular Biosciences and Bioengineering	1	75,000	2	168,994	93,994	125.3%	
Natural Resources and Environmental Mgt	4	176,275	6	184,499	8,224	4.7%	
Oahu County	1	23,496	1	110,000	86,504	368.2%	
Office of The Assoc Dean for Academic and Student Affairs	1	124,630	1	150,000	25,370	20.4%	
Plant and Environmental Protection Sciences	18	2,729,091	18	2,920,297	191,206	7.0%	
Tropical Plant and Soil Science	3	90,175	3	117,322	27,147	30.1%	
Hawai'i Inuiakea School of Hawaiian Knowledge	3	2,173,074	5	3,213,088	1,040,014	47.9%	
Hawai'i Inuiakea School of Hawaiian Knowledge	3	2,173,074	3	2,156,713	(16,361)	-0.8%	
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%	
Institute for Astronomy	14	7,256,200	30	4,969,812	(2,286,388)	-31.5%	
Institute for Astronomy	14	7,256,200	30	4,969,812	(2,286,388)	-31.5%	
John A. Burns School of Medicine	58	13,792,197	61	15,072,101	1,279,904	9.3%	
Associate Dean for Academic Affairs	6	2,371,718	3	1,582,874	(788,844)	-33.3%	

FY 2019 Monthly Report of Awards to Date as of September 30, 2018

Campus Details						
Campus	FY 2018		FY 2019			
	Award Count	Award Amount	Award Count	Award Amount	\$ Change	% Change
Department of Anatomy, Biochemistry, and Physiology	1	77,000	3	557,696	480,696	624.3%
Department of Cell and Molecular Biology	2	2,350,280	3	2,401,908	51,628	2.2%
Department of Complementary and Alternative Medicine	2	47,863	1	8,439	(39,424)	-82.4%
Department of Family Medicine and Community Health	3	2,050,100	1	32,022	(2,018,078)	-98.4%
Department of Geriatric Medicine	1	38,275	-	-	(38,275)	-100.0%
Department of Medicine	9	720,025	12	1,663,131	943,106	131.0%
Department of Native Hawaiian Health	3	376,312	3	366,231	(10,081)	-2.7%
Department of Obstetrics, Gynecology and Women's Health	6	578,374	3	253,353	(325,021)	-56.2%
Department of Pediatrics	4	780,989	6	2,181,606	1,400,617	179.3%
Department of Psychiatry	1	56,331	2	90,555	34,224	60.8%
Department of Surgery	-	-	9	1,634,950	1,634,950	100.0%
Department of Tropical Medicine, Medical Micro and Pharm	13	1,955,921	11	1,939,266	(16,655)	-0.9%
Institute for Biogenesis Research	-	-	1	2,185,070	2,185,070	100.0%
John A. Burns School of Medicine	6	1,710,009	3	175,000	(1,535,009)	-89.8%
Native Hawaiian Center of Excellence	1	679,000	-	-	(679,000)	-100.0%
Lyon Arboretum	1	13,000	-	-	(13,000)	-100.0%
Lyon Arboretum	1	13,000	-	-	(13,000)	-100.0%
Outreach College	4	35,750	1	2,500	(33,250)	-93.0%
Community Programs	3	7,750	1	2,500	(5,250)	-67.7%
Outreach College	1	28,000	-	-	(28,000)	-100.0%
School of Architecture	1	150,175	-	-	(150,175)	-100.0%
School of Architecture	1	150,175	-	-	(150,175)	-100.0%
School of Nursing and Dental Hygiene	7	1,411,017	4	408,044	(1,002,973)	-71.1%
Department of Nursing	5	1,324,566	3	385,556	(939,010)	-70.9%
School of Nursing and Dental Hygiene	2	86,451	1	22,488	(63,963)	-74.0%
School of Ocean and Earth Science and Technology	161	42,728,583	156	40,130,013	(2,598,570)	-6.1%
Center for Microbial Oceanography, Research and Edu (C-MORE)	7	3,831,803	6	3,564,637	(267,166)	-7.0%
Department of Atmospheric Sciences	1	75,174	1	45,000	(30,174)	-40.1%
Department of Geology and Geophysics	6	490,472	12	1,514,285	1,023,813	208.7%
Department of Ocean and Resources Engineering	4	466,280	1	79,500	(386,780)	-83.0%
Department of Oceanography	19	3,200,810	14	3,163,570	(37,240)	-1.2%
Hawaii Institute of Geophysics and Planetology (HIGP)	32	4,146,370	26	2,459,509	(1,686,861)	-40.7%
Hawaii Institute of Marine Biology (HIMB)	15	2,045,252	23	2,331,764	286,512	14.0%
Hawaii Natural Energy Institute (HNEI)	5	2,438,997	1	40,725	(2,398,272)	-98.3%
International Pacific Research Center (IPRC)	5	1,338,162	8	1,574,129	235,967	17.6%
Joint Institute for Marine and Atmospheric Research (JIMAR)	46	19,167,255	39	16,553,382	(2,613,873)	-13.6%
Pacific Biosciences Research Center	5	287,414	8	3,069,593	2,782,179	968.0%
School of Ocean and Earth Science and Technology	4	3,219,375	4	1,986,072	(1,233,303)	-38.3%
Sea Grant College Program	12	2,021,219	12	3,731,299	1,710,080	84.6%
University Marine Center/Ship Operations	-	-	1	16,548	16,548	100.0%
School of Pacific and Asian Studies	7	1,576,250	7	1,118,409	(457,841)	-29.0%
Center for Japanese Studies	2	571,350	3	373,082	(198,268)	-34.7%
Center for Korean Studies	1	20,000	-	-	(20,000)	-100.0%
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%
School of Social Work	10	1,916,044	15	2,100,206	184,162	9.6%
Center on Aging	1	86,231	2	389,072	302,841	351.2%
Office of Public Health Studies	8	1,763,783	8	1,319,906	(443,877)	-25.2%
School of Social Work	1	66,030	5	391,228	325,198	492.5%
Shidler College of Business	-	-	3	325,617	325,617	100.0%
Department of Information Technology Management	-	-	3	325,617	325,617	100.0%
University of Hawaii Cancer Center	26	6,259,247	33	12,070,383	5,811,136	92.8%
Cancer Biology	2	316,921	5	1,043,319	726,398	229.2%
Cancer Epidemiology	9	1,281,094	13	5,832,995	4,551,901	355.3%
Cancer Prevention in the Pacific	-	-	2	486,264	486,264	100.0%
Translational and Clinical Research	9	1,704,424	3	866,354	(838,070)	-49.2%
University of Hawaii Cancer Center	6	2,956,808	10	3,841,451	884,643	29.9%
Vice Chancellor, Academic Affairs	7	1,173,822	5	1,092,099	(81,723)	-7.0%
Graduate Education	1	695,000	1	657,000	(38,000)	-5.5%
Library (UH Manoa)	4	52,081	2	8,080	(44,001)	-84.5%
Service Learning	1	22,886	-	-	(22,886)	-100.0%
Undergraduate Education	1	403,855	2	427,019	23,164	5.7%
Vice Chancellor, Research	1	49,900	1	20,000	(29,900)	-59.9%
Animal and Veterinary Services Program	1	49,900	-	-	(49,900)	-100.0%
Vice Chancellor, Research	-	-	1	20,000	20,000	100.0%
Vice Chancellor, Students	7	1,506,192	8	3,251,804	1,745,612	115.9%
Health & Wellness	1	25,000	-	-	(25,000)	-100.0%
Student Equity Excel & Diversity	6	1,481,192	7	3,235,304	1,754,112	118.4%
Women's Center	-	-	1	16,500	16,500	100.0%
Water Resources Research Center	5	3,451,718	3	209,873	(3,241,845)	-93.9%
Water Resources Research Center	5	3,451,718	3	209,873	(3,241,845)	-93.9%
William S. Richardson School of Law	10	994,299	13	954,930	(39,369)	-4.0%
William S. Richardson School of Law	10	994,299	13	954,930	(39,369)	-4.0%

FY 2019 Monthly Report of Awards to Date as of September 30, 2018						
Campus Details						
Campus	FY 2018		FY 2019		\$ Change	% Change
	Award Count	Award Amount	Award Count	Award Amount		
University of Hawai'i at West O'ahu	11	5,147,044	7	3,032,434	(2,114,610)	-41.1%
Chancellor, UH West Oahu	11	5,147,044	7	3,032,434	(2,114,610)	-41.1%
Anthropology (UH WO)	-	-	1	600	600	100.0%
Chancellor, UH West Oahu	3	2,059,769	1	896,922	(1,162,847)	-56.5%
Division of Social Sciences	4	714,553	1	151,576	(562,977)	-78.8%
Elementary Education	-	-	1	142,314	142,314	100.0%
Vice Chancellor for Academic Affairs (UH WO)	-	-	1	11,880	11,880	100.0%
Vice Chancellor for Student Affairs	4	2,372,722	2	1,829,142	(543,580)	-22.9%
University of Hawai'i Maui College	19	9,730,282	15	8,199,119	(1,531,163)	-15.7%
Chancellor, UH Maui College	19	9,730,282	15	8,199,119	(1,531,163)	-15.7%
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	13	4,285,067	9	2,390,010	(1,895,057)	-44.2%
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%
University of Hawai'i System	24	15,627,721	28	19,392,378	3,764,657	24.1%
Office of the Vice President for Community Colleges	2	1,224,959	2	141,000	(1,083,959)	-88.5%
Office of the Vice President for Community Colleges	2	1,224,959	2	141,000	(1,083,959)	-88.5%
Office of the Vice President for Research and Innovation	7	2,854,065	10	9,778,230	6,924,165	242.6%
Applied Research Laboratory	7	2,854,065	10	9,778,230	6,924,165	242.6%
Office of the VP for Academic Planning and Policy	7	3,336,450	8	1,827,730	(1,508,720)	-45.2%
Hawai'i P-20 Partnerships for Education Office	6	3,236,450	4	193,967	(3,042,483)	-94.0%
Office of the VP for Academic Planning and Policy	1	100,000	4	1,633,763	1,533,763	1533.8%
Office of the VP for Information Tech/Chief Info Officer	8	8,212,247	8	7,645,418	(566,829)	-6.9%
Office of the VP for Information Tech/Chief Info Officer	3	1,955,560	7	6,491,418	4,535,858	231.9%
Pacific Disaster Center	5	6,256,687	1	1,154,000	(5,102,687)	-81.6%
Windward Community College	12	5,866,248	12	5,592,697	(273,551)	-4.7%
Chancellor, Windward Community College	12	5,866,248	12	5,592,697	(273,551)	-4.7%
Chancellor, Windward Community College	12	5,866,248	12	5,592,697	(273,551)	-4.7%
Grand Total	682	166,681,760	682	182,222,501	15,540,741	9.3%