

Please provide your testimony on this form for the next University of Hawaii Board of Regents meeting. Make sure you include all the requested information so that the Board of Regents is able to clearly understand the testimony provided.

Your Name (required) \*

Thomas E. Browder

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Board of Regents Agenda Item (required) \*

**OTHER** 

OTHER (Please describe) \*

Item IV.2, Strategic Plan Progress

Your Position (required) \*

Comments Only

## Your Testimony/Comments

Here we propose the addition of a new hub to the UH Strategic Plan for 2023-2029 that directly addresses imperatives 1, 2, and 4 of the plan.

The new "Training and Research Hub for the Instrumentation Frontier, Machine Learning and Artificial Intelligence (ML/AI) and

Quantum Science is described in the pdf file below.

This proposal is receiving enthusiastic "bottoms-up" support in the strategic planning process. See, for example,

https://systemplan.consider.it/training-and-research-hub-for-the-instrumentation-frontier-mlai-and-quantum-science-add-your-own-objective-met-27603?results=true

We now request feedback from the Board of Regents on this proposal.

Your Testimony (pdf or word)

<u>UH\_Instrumentation\_Data\_Quantum Science.pdf</u> (55.8 kB)

# **Actions**

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Imperatives one, two and four: Diversify Hawai'i's Economy through UH Research and Innovation

Goal: Train local Hawai'i students,
Build and sustain a thriving UH
research and innovation enterprise
that addresses local and global
challenges by linking fundamental
scientific discovery with applied
research necessary for technological
innovation to create jobs and advance
a knowledge based economy.

UH will build out and sustain research and innovation hubs in key areas:

- Climate Resilience, Energy and Sustainable Ecosystems
- Ocean, Earth and Atmospheric Sciences
- Astronomy and Space Sciences
- Data Sciences and Global Cybersecurity
- Health and Wellness
- Food Security and Agriculture
- The Asia-Pacific and Hawai'i
- Instrumentation Frontier, ML/AI and Quantum Science

# Training and Research Hub for the Instrumentation Frontier, ML/AI and Quantum Science

To prepare Hawai'i students for a better future, meet our workforce needs and diversify the Hawai'i economy, we must take into account the recent and revolutionary developments of science and technology in the US and the Pacific Rim and adapt our strategic plan to these developments. By their nature, these revolutionary developments do not fall within the boundaries of a single academic department or college but are fundamentally interdisciplinary.

The Instrumentation Frontier, a term coined in the 2013 decadal survey of high energy physics, refers to the development of new detectors and technologies to explore inner space (the atomic and subatomic realms) and outer space (the universe as a whole). The Instrumentation Frontier work of Physics and Astronomy has led to the training and placement of local UH undergraduate and graduate students, and the creation of a local high-tech company. The passage of the Federal 280 billion dollar CHIPS and Science Act could seed future opportunities for Hawai'i.

The development of Machine Learning and Artificial Intelligence is revolutionizing science and technology. New applications are enabling us to probe deeper into outer space and inner space. An example on the leading edge is embedding machine learning in the front-end readout of detectors. Hawai'i students and faculty need to catch up to the leading edge to be prepared for the future. Computer, Engineering, and Natural Science departments must join forces to realize this opportunity. There are extraordinary job opportunities for Hawai'i graduates. The passage of the Advancing American Artificial Intelligence Innovation Act of 2021 (1 Billion/year) is a sign that the US sees this as a critical part of the future.

Quantum Mechanics (developed in the 1930's) is the key to many technologies from the iPhone, laser, the electron microscope and MRI machines as well as the understanding of the physical universe (chemistry, biology and physics). We are now about to begin the second Quantum Revolution using quantum mechanically entangled states to develop a revolutionary generation of quantum computers and quantum sensors. The quantum computers may be orders of magnitude more powerful than existing computers and could, for example, break all secret codes. There will be new types of quantum networking and much more. We need to train Hawai'i students to join the second quantum revolution in which many of the jobs of the future will be located.

Departments from Engineering and the College of Natural Sciences need to prepare for this next phase. The passage of the National Quantum Initiative Act (~1 Billion/year) is Federal recognition of the importance of this domain.

In summary, existing instrumentation research groups working in STEM fields such as Physics, Astronomy, Computer Science, and Engineering are already developing advanced instrumentation, generating local technology spin-off companies, and providing highly trained workers needed in Hawaii. A hub for the Instrumentation Frontier, Machine Learning/Artificial Intelligence (ML/AI), and Quantum Science would enforce this trend and grow the local economy and expertise further. This will be accomplished by training local Hawai'i students, strengthening the existing groups and their interactions, and by reinforcing engagement with the blossoming, cutting-edge trends in fields such as machine-learning/artificial intelligence, and quantum computing. Students must receive fundamental, highly specialized training in quantum physics and data science to benefit from these opportunities. The University of Hawai'i already has expertise in these fields that can be utilized synergistically in the form of a Training, Research and Innovation Hub.



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Board of Regents Agenda Item (required) \*

VI.F. Review of Proposed Tuition Schedule

Your Position (required) \*

Oppose

### Your Testimony/Comments

Raising the amount of tuition will put a huge strain on future UH students, even more so that it already is. As an out-of-state student, I pay significantly more than in-state students, and while I value my place at Richardson, financially I struggle to pay my rent and other necessary expenses. With the state of the economy and its likely trajectory, future students will undoubtedly be placed in the same position, whether in-state or out-of-state.

After graduation I will be facing well into six figures of debt, and although I took it on willingly, that willingness does not alleviate any of the pressure I feel, nor does it absolve the US education system from its culpability in putting students in debt through an irrational pursuit of outpacing the rest of inflation. Some jurisdictions are introducing new legislation that would hold universities accountable for the rise in tuition costs and

student debt, while others are putting explicit caps on tuition increases. It's no secret that America's student loan debt is a crisis, why would WSRSL act in a way that would add to the student loan debt growth rate? It's my responsibility to look out for those who come after me so they may have the same (or better) opportunities without more financial pressure. There is already significant gatekeeping that goes on in the legal field, especially financially, and WSRSL raising tuition would be misguided and irresponsible. The other universities WSRSL is compared to in the graph presented are all but one ranked at least twenty places above WSRSL; additionally one law school is even ranked 82 places above us and within the top ten law schools in the nation. It's not fair to compare WSRSL to these schools in terms of justifying raising tuition while we do not compare when it comes to academic prestige.

Before even considering raising tuition, WSRSL should have to do three things:

- (1) Come up with a detailed audit of where the money they are already getting from tuition is going (as well as the \$1 million donation the school recently received from Jay Shidler)
- (2) show that there is a financial need that can only be solved by raising tuition
- (3) provide a detailed account of where the money from a tuition increase would be going.

Ultimately, I cannot support putting more of a financial burden on an already struggling generation of law students, so therefore I have to oppose this proposal.

Your Testimony (pdf or word)

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### **Actions**

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Board of Regents Agenda Item (required) \*

VI.F. Review of Proposed Tuition Schedule

Your Position (required) \*

Oppose

### Your Testimony/Comments

University tuition is already a huge burden for those who are not independently wealthy, even as a resident of Hawaii. As we know from the national conversation, student debt is higher than ever before. it is also now well understood that student debt is grossly disproportionate to students in minority groups. If diversity across the student body is a value, it is illogical to raise the tuition further.

Your Testimony (pdf or word)

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Your Name (required) \*

Joel Burgess

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Board of Regents Agenda Item (required) \*

VI.F. Review of Proposed Tuition Schedule

Your Position (required) \*

Oppose

### Your Testimony/Comments

Aloha University of Hawai'i Board of Regents,

My name is Joel Burgess and I am currently in my third and final year at the William S. Richardson School of Law. I write in strong**opposition** of the proposed tuition increase for UH law students.

The William S. Richardson School of Law (WSRSL) tuition rate is significantly lower than that of other public west coast institutions. That is true. When looking at the quality of other west coast law schools, however, there is a significant difference between our law school's national ranking and the rankings of west coast public law schools. For example, the public law school's in California are UC Berkeley, UC Davis, UC Hastings,

UC Irvine, and UCLA. Their national rankings are 9, 37 (tie), 51, 37 (tie), and 15. The University of Oregon Law School is ranked 67 (tie) and the University of Washington Law School is ranked 49.

The William S. Richardson School of Law rank is tied for 91, distantly behind other California, Oregon, and Washington public law schools. This indicates that there is a significant drop in the quality of education we receive at Richardson when compared to other west coast law schools. So, it is no justification that UH should raise tuition for its law students because other west coast law schools cost more. Those schools cost more because they receive a better quality of education.

Until the William S. Richardson School of Law receives a higher ranking, there should not be a raise in tuition. I personally feel like my legal education has been negatively affected by many of the law school's administrative procedures. My first three semesters at Richardson were completely online, and since the spring 2022 semester, 4 out my 11 classes have been conducted almost completely online. Law students should not have to pay more money to receive a lesser quality of education, especially when so many classes are still being offered online only.

Thank you for your consideration.

Very Respectfully, Joel Burgess J.D. Candidate, Class of 2023

Your Testimony (pdf or word)

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