

H .B. NO. 3071

A BILL FOR AN ACT

RELATING TO ENDOWED CHAIRS AT THE UNIVERSITY OF HAWAII.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. The legislature finds that the final link in
2 the education pipeline, universally recognized as critical to
3 the success of a knowledge-based economy, is a vibrant
4 postsecondary education system that meets not only the
5 traditional education expectations of its citizens, but becomes
6 a true partner in addressing the needs of the state to have a
7 highly skilled workforce, create knowledge-based products and
8 services, and provide the global orientation and entrepreneurial
9 skills required to succeed in today's world.

10 The competitiveness of a university is determined by the
11 strength of its faculty. One proven way to enhance that
12 strength is by retaining and recruiting distinguished faculty
13 through the endowment of faculty chairs. For example, the
14 Kentucky legislature has appropriated \$423,000,000 since 1997 to
15 the Kentucky research challenge trust fund, which must be
16 matched on a one-to-one basis with private contributions. The
17 University of Kentucky has used its bucks for brains program to
18 create seventy-seven endowed chairs and 190 endowed

1 professorships. External research contracts and grants have
2 increased by over 130 per cent since 1997. There are numerous
3 other examples of the benefits of endowed positions in
4 institutions across the country.

5 Endowed chairs are supported by the income generated by an
6 endowment fund established with a gift or gifts from private
7 sources. Typically, the donations are made for specific
8 disciplines and are often named after the donor or in honor of a
9 distinguished member of the field. In addition to the prestige
10 accorded the holder of an endowed chair, funding is provided to
11 support his or her teaching, research, and service
12 responsibilities.

13 To support an endowed chair in a science, technology,
14 engineering, and math field would require between \$2,000,000 and
15 \$4,000,000.

16 The legislature further finds that, as the cost of
17 petroleum has sky-rocketed and the debate continues over just
18 when oil production will peak, clean technologies, including
19 renewable power generation, have become much more interesting to
20 venture capital investors, driving the need for more research
21 and a growing workforce that requires specific training in
22 energy-related skills. Increased reliance on renewable energy

1 resources and technologies will require advanced power systems
2 engineering to integrate new technologies into conventional
3 power systems.

4 The Pearl Harbor naval shipyard has been recruiting new
5 workers since 1999, after ten years of no recruiting, and there
6 are specific needs for training this workforce to remain
7 competitive with other shipyards. The Pearl Harbor naval
8 shipyard has identified five key areas of workforce development
9 needs, and has placed a high priority on the development of a
10 power generation and distribution curriculum at the University
11 of Hawaii.

12 The University of Hawaii college of engineering is actively
13 considering adding a power program, but is constrained by
14 financial issues. To start a program would require
15 approximately \$2,000,000 and two to three new junior faculty
16 positions. Typically, such a program would also require senior
17 faculty to attract significant research funding and mentor
18 junior faculty. The establishment of an endowed chair for power
19 generation and distribution would indicate the State's commitment
20 to developing a program that will fill research and workforce
21 needs to enable Hawaii to move toward energy sustainability and
22 security. The program also would help ensure the quality and

1 competitiveness of the workforce at the Pearl Harbor naval
2 shipyard, an important employer in the State. A robust power
3 program, anchored by an endowed chair, could evolve into a
4 center of excellence which would attract students from around
5 the Pacific.

6 The legislature finds that there is sufficient
7 justification to assist the University of Hawaii in attracting
8 and retaining highly qualified faculty in science, technology,
9 engineering, and math disciplines. The purpose of this Act is
10 to establish the eminent scholars program and to appropriate
11 funds, to be matched by private donations, to support the power
12 generation and distribution endowed chair in the University of
13 Hawaii college of engineering.

14 SECTION 2. There is established an eminent scholars
15 program to be funded by a fund known as the state akamai
16 investment matching special fund to enable the University of
17 Hawaii system to provide donors with an incentive in the form of
18 matching grants for donations to establish permanently endowed
19 faculty positions in science, technology, engineering, and math
20 at any university of Hawaii campus. All funds appropriated for
21 the eminent scholars program shall be deposited into the state
22 akamai investment matching special fund and invested by the

1 director of finance until the president of the University of
2 Hawaii expends the funds to match private donations on a dollar-
3 for-dollar basis, provided that the first endowed chair shall be
4 established as the chair for power generation and distribution
5 in the college of engineering. Any undisbursed balance
6 remaining in the special fund and interest income accruing to
7 the portion of the special fund that is not matched and
8 distributed to the university shall remain in the special fund
9 and be used to increase the total funds available for funding
10 endowed chairs.

11 SECTION 3. Chapter 304A, Hawaii Revised Statutes, is
12 amended by adding a new section to be appropriately designated
13 and to read as follows:

14 "§304A- State akamai investment matching special fund.

15 (a) There is established a state akamai investment matching
16 special fund into which shall be deposited appropriations made
17 by the state legislature and matching private donations. The
18 fund shall be used as a funding mechanism for the eminent
19 scholars program to create new endowed faculty positions in
20 science, technology, engineering, and math funded by a
21 combination of state and private funds. The board of regents
22 shall adopt rules as necessary to establish this program. No

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1 state appropriations deposited into the fund shall be expended
2 unless matched by private funds on a dollar-for-dollar basis.

3 **(b)** To be eligible for state matching funds, a university
4 of Hawaii campus chancellor shall submit a proposal for each
5 proposed endowed chair to the president of the university of
6 Hawaii for presentation to the board of regents for review and
7 consideration. The board of regents of the university of Hawaii
8 shall take into account the following criteria before approving
9 state matching funds to establish a position and recruit
10 candidates:

11 **(1)** The ability for the position to contribute to Hawaii's
12 economic development;

13 **(2)** The ability for the position to make a significant
14 contribution to the university's academic quality; and

15 **(3)** The ability for the position to obtain significant
16 amounts of annual research from highly competitive
17 grant sources.

18 **(c)** The review process shall consider the field of the
19 proposed position and its potential funding sources,
20 relationship to existing research at the university of Hawaii
21 and in the state of Hawaii, size and scope of related
22 industries, and other relevant factors.

Report Title:

University of Hawaii; Endowed Chairs; Science, Technology, Engineering, and Math.

Description:

Establish an eminent scholars program to create endowed chairs in science, technology, engineering, and math disciplines in the University of Hawaii by appropriating State general funds to be matched by private donations. Appropriate \$2,000,000 to be matched by private donations, for an endowed chair in power generation and distribution in the University of Hawaii college of engineering as the first STEM endowed chair. The endowed chair would serve as the foundation of a new power program to support workforce needs at the Pearl Harbor naval shipyard and the growing renewable energy sector.

JUSTIFICATION SHEET

DEPARTMENT: Business, Economic Development, and Tourism

TITLE: A BILL FOR AN ACT RELATING TO ENDOWED CHAIRS AT THE UNIVERSITY OF HAWAII.

PURPOSE: To increase the quality of STEM education in Hawaii through the creation of endowed chairs in STEM disciplines in the University of Hawaii by appropriating funds to be matched by private donations. The first endowed chair would be for power generation and distribution in the College of Engineering.

MEANS: Add a new section to chapter 304A, Hawaii Revised Statutes, and appropriate money to the University of Hawaii.

JUSTIFICATION: The competitiveness of a university is determined by the strength of its faculty. One proven way to enhance that strength is by retaining and recruiting distinguished faculty through the endowment of faculty chairs. For example, the Kentucky legislature has appropriated \$423,000,000 since 1997 to the Kentucky research challenge trust fund, which must be matched on a one-to-one basis with private contributions. The University of Kentucky has used its bucks for brains program to create seventy-seven endowed chairs and 190 endowed professorships. External research contracts and grants have increased by over 130 per cent since 1997. There are numerous other examples of the benefits in institutions across the country.

Endowed chairs are supported by the income generated by an endowment fund established with a gift or gifts from private sources. Typically, the donations are made for specific disciplines and are often named after the donor or in honor of a distinguished member of the field. In

addition to the prestige accorded the holder of an endowed chair, funding is provided to support his or her teaching, research, and service responsibilities.

To support an endowed chair in a STEM field would require between \$2,000,000 and \$4,000,000. Currently, the University of Hawaii has a little over two dozen endowed chairs and distinguished professorships, with only five in non-health related STEM disciplines.

An endowed chair for power generation and distribution has been selected as the first to be funded because the University of Hawaii no longer has an active power generation and distribution curriculum as part of its Electrical Engineering Discipline. Until the recent upsurge in interest in renewable energy and sustainability, there was little Federal interest in funding research in these areas and little demand for graduates to fill limited workforce needs.

As the cost of petroleum has sky-rocketed and the debate continues over just when oil production will peak, clean technologies, including renewable power generation, have become much more interesting to venture capital investors (The Clean Tech Revolution: The Next Big Growth and Investment Opportunity by Pernick and Wilder, 2007). This interest will drive the need for more research and a growing workforce.

Graduates would also be specifically qualified to support electrical engineering needs at the Pearl Harbor Naval Shipyard and programs could be developed specific to their needs. The Shipyard has identified the development of a power generation and distribution curriculum to support retraining as one of five key workforce development needs that must be addressed if

the Shipyard is to successfully make it through the Base Closure & Realignment Commission (BRAC) process. These proposals are supported by the Military Affairs Council of the Chamber of Commerce.

The UH College of Engineering is actively considering adding a power program, but is constrained by financial issues. To start a program would require approximately \$2,000,000 and two to three new junior faculty positions. Typically, such a program would also require senior faculty to attract significant research funding and mentor junior faculty. An Endowed Chair for Power Generation and Distribution would indicate the State's commitment to developing a program that will fill research and workforce needs that will enable Hawaii to move toward energy sustainability and security.

This new focus would be particularly important to Hawaii as we strive to meet the goals established by the Energy for Tomorrow initiative. Increased reliance on renewable energy resources and technologies will require advanced power systems engineering to integrate new technologies into conventional power systems. A robust power program, anchored by an Endowed Chair, could evolve into a Center of Excellence which would attract students from around the Pacific.

Impact on the public: The ultimate goal of improving the University of Hawaii's ability to provide a quality STEM education is to raise the skill level of Hawaii's workforce, thereby producing higher incomes and a better standard of living for Hawaii's residents.

Impact on the department and other agencies: There will be no direct impact on the department. The University of Hawaii will be positively impacted by receiving

additional resources to improve their ability to attract and retain high quality STEM faculty.

GENERAL FUND: \$2,000,000

OTHER FUNDS: \$2,000,000 in private donations to be raised by the University of Hawaii.

PPBS PROGRAM DESIGNATION: UOH-900

OTHER AFFECTED AGENCIES: University of Hawaii

EFFECTIVE DATE: July 1, 2008