



UNIVERSITY OF HAWAI'I SYSTEM

Legislative Testimony

Testimony Presented Before the
House Committee on Water, Land, Agriculture, and Hawaiian Affairs and
Committee on Education

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by

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SB1784 RELATING TO UNIVERSITY OF HAWAII NATIVE HAWAIIAN PROGRAMS

The University of Hawai'i supports the intent of SB1784, which includes the participation of local communities in the center for teacher education and makes an appropriation to establish Ho'okulāwi: 'Aha Ho'ona'auao 'Ōiwi (the center for Native Hawaiian and indigenous education) within the University of Hawai'i at Mānoa . Our support for SB1784 is contingent upon appropriated funding which does not supplant our priority biennium budget requests, especially those which support other Native Hawaiian and Kūali'i programming on our campus in areas such as Nursing, Medicine, Engineering, Hawaiian Language and Hawaiian Studies. We also submit four amendments for consideration.

SB1784 summarizes concisely the challenges we face in educating our Native Hawaiian youth and the shortage of teachers of Native Hawaiian ancestry. The College of Education at UH Mānoa has a long history of faculty working in Native Hawaiian communities. From 1986 to 1998, collaborating faculty were involved with Kamehameha Schools and the Hawai'i Department of Education in the innovative Preservice Education of Teachers of Minorities (PETOM) program, an experimental effort at preparing cohorts of preservice, elementary teachers to address the unique learning characteristics of students of minority backgrounds as well as educationally at-risk learners, specifically in high Native Hawaiian population communities. Students spent two years in this teacher preparation program with extensive classroom participation each semester. Teacher candidates were recruited from within the community and the program was provided in Leeward schools. Many of the PETOM graduates are still teaching in Leeward schools. PETOM was discontinued in 1998 due to lack of funding.

Similarly, the Kalama Elementary Teacher Education Project, which is now completing its 6th cohort, is a two-year elementary teacher education program that has been based in Leeward schools over the last ten years. The project draws on teacher candidates who live in the geographic region to build a stable teaching force in Leeward schools. Partner schools include Leihōkū, Mā'ili, Mākaha, and Kamaile elementary schools.

Building upon and expanding on these efforts, the Ho‘okulāiwi project has evolved over a ten year period of research and development that embraces three primary goals:

1. Prepare teachers for the Hawai‘i DOE Hawaiian Language Immersion Program
2. Prepare teachers for Hawai‘i DOE Title I schools with large numbers of Hawaiian children, as well as prepare teachers for Hawaiian charter schools
3. Prepare Native Hawaiian educational leaders in areas such as curriculum research, school administration, and teacher education through study at the master’s and doctoral levels

Currently the College’s Ho‘okulāiwi faculty are preparing 15 doctoral and 35 master’s students, with an additional 14 students in the Masters of Education in Teaching (MET) Hawaiian language immersion cohort

Ho‘okulāiwi faculty have been successful in getting grants and attracting Native Hawaiian students to the program. Thanks to efforts such as the Ho‘okulāiwi project our College of Education student body is now comprised of 14% Native Hawaiian students and these percentages are growing. Retention rates of teacher graduates of the Ho‘okulāiwi project are high, averaging over 80% in the last 10 years. These percentages are promising evidence that we can attract local students, provide a high quality education, and “grow our own” teachers in Hawaii reducing our dependence on out-of-state recruiting to fill vacant DOE positions. And we know that Ho‘okulāiwi has strong community support, an essential component in improving education.

Clearly Ho‘okulāiwi already exists. We suggest that Section 1 be amended to delete “establish” and simply read to “resource” Ho‘okulāiwi in the College of Education.

SB1784 Section 2 relates to the Hawai‘i Institute for Educational Partnerships (HIEP), a legislatively established collaborative of the College of Education, the College of Arts and Sciences, and the Hawai‘i DOE. HIEP is a member of the National Network for Educational Renewal (NNER) established by John Goodlad to focus on engaging schools and universities as equal partners in the simultaneous renewal of schooling and the education of educators. Each year HIEP provides a report of its activities to the Legislature, the Board of Education, and the Board of Regents.

The proposed amendment in Section 2 requires HIEP to provide annual reports to “local community boards.” While we support the intent of the amendment, it needs clearer definition of which local community boards the Legislature intend that HIEP should provide reports to. HIEP is allocated no funds and is supported almost entirely from College of Education. We are concerned over the cost of printing and distributing annual reports to an expanding number of community boards. We therefore suggest that Section 2 be amended to provide clear definition of community boards.

We recommend that the proposed appropriation in Section 3 be amended to read \$400,000 in FY‘08 with the option of requesting additional funds in FY‘09 contingent upon the performance of Ho‘okulāiwi in demonstrating significant progress in increasing the number of students in the program and providing data on student achievement of teachers who have graduated from the program.

We also ask that the bill consistently refer to this program as the Center for Native Hawaiian and Indigenous **Teacher** Education, so that its purpose is clear and it is not confused with our new Hawaiʻinuiākea School of Hawaiian Knowledge.

Finally, I would like to take this opportunity to inform you of some of the requests in our biennium budget request that, with your support, would also help support the College of Education and Native Hawaiian Programming on our campus:

- ***Chancellor's Office: Hawaiian Knowledge Initiative (FY'08: \$1,073,504; FY'09: \$1,137,504).*** The University of Hawaiʻi at Mānoa is planning to merge our Native Hawaiian programs into a single locus of Native Hawaiian Knowledge. This budget provides resources that would support the new Masters Degrees in Hawaiian and Hawaiian Studies.
- ***Education: Capacity in Teacher Education (FY'08: \$65,000; FY'09: \$130,000).*** To continue our efforts to fill the State's need for qualified teachers for Hawaiʻi's keiki, this budget requests one additional permanent position in FY'08 and another FY'09 for the College of Education to allow them to accept more qualified students into their teacher education programs, thus increasing the number and quality of locally produced teachers in shortage areas such as mathematics, science, and in keeping with the P-20 initiative, early childhood education.
- ***Chancellor's Office: Centennial Hires for Diversity and Excellence (FY'08: \$300,000; FY'09: \$500,000).*** The University of Hawaiʻi at Mānoa desires to have flexibility to attract scholars that will bring prestige and enhance the diversity of our faculty through three "Centennial Hires for Diversity or Excellence." These funds would be used strategically to identify exceptional scholars who could be recruited to UH Mānoa as outstanding opportunities arise, and the University hopes to match General Funds allocated with Tuition dollars. UH Mānoa
- ***Education: Center on Disability Studies (FY'09: \$120,000).*** To meet federal grant requirements for institutional support, the Center requests two additional permanent faculty positions. The Center currently operates with only one general-funded position. The additional positions will enable the Center to further expand its outreach to serve the increasing numbers of persons with disabilities. The Center on Disability Studies works through training, research, and service to improve quality of life for people with disabilities throughout the State, and currently manages more than 88 faculty and staff and 50 projects with a budget of over \$15 million.
- ***Education: Funding for Mentor Teachers (FY'09: \$125,000).*** Cooperating Teachers/Counselors and Observation/Participating Teachers in K-12 classrooms throughout the State provide an essential service to the College of Education by supervising and mentoring full-time student teachers and other education practicum students in the field required for licensure. This item requests funding to a) more appropriately compensate mentor teachers for the additional work they provide in developing Hawaiʻi's teacher workforce, and b) put mentor compensation on par with other institutions of higher learning in the state.
- ***Education: Special Education (FY'09: \$500,000).*** The State of Hawaiʻi's need for more qualified Special Education teachers is increasing. In order to fulfill this need, the

College of Education requests funds to hire seven permanent faculty and one full-time staff person in the Special Education Department. These positions are temporarily funded by the Hawai'i Department of Education, which if discontinued would severely impact the College of Education's ability to produce qualified special education teachers.

I have also attached to my written testimony a list of all of the activities UH Mānoa has on the Leeward Coast, to demonstrate to you the ways in which we seek to engage with that community and bring the benefit of our resources and knowledge to the people of Wai'anāe.

Thank you for the opportunity to testify.

Teaching, Research, and Service Activities Provided to the Wa‘ianae Area

University of Hawai‘i at Mānoa

College of Education

1. Teacher Preparation Efforts

- **Ho‘okulāiwi:** Strives to enhance education for Native Hawaiian children through the development of a pedagogy that emerges from and affirms the cultural experiences of the Hawaiian people. *Goals:* to prepare teachers for the Hawai‘i DOE Hawaiian Language Immersion Program; to prepare teachers for Hawai‘i DOE Title I schools with large numbers of Hawaiian children and for Hawaiian charter schools; and to prepare Native Hawaiian educational leaders in curriculum research, school administration, and teacher education through study at the master’s and doctoral levels. (Margie Maaka, Director)
- **Kalama (Elementary Teacher Education) Project:** Two-year elementary teacher education program based in Leeward schools. Draws on teacher candidates who live in the region to build a stable teaching force in Leeward schools. Partner schools include Leihoku, Ma‘ili, Makaha, and Kamaile elementary schools. (Kathy Au, Founding Director; Alice Kawakami, current Director)
- **Teach For America:** Partnership of the Hawai‘i DOE, the UH COE, and the national Teach For America program, with support from the State Legislature, the Governor’s Office, and private foundations/corporations. Recruits and trains qualified teachers in traditionally hard-to-fill areas such as mathematics, science, and special education, to serve in high poverty, high need communities. COE provides an on-the-job Masters of Education in Teaching degree over two years that prepares them for Hawai‘i licensure. Of the 54 teachers recruited this year, *60% are placed on the Leeward Coast.*

2. In-service Teacher Professional Development

- **Wai‘anae High School CREDE Project:** Lois Yamauchi (Educational Psychology) has been working with the Hawaiian Studies Program at Wai ‘anae High School through her CREDE project (instructional strategies for improved student achievement) for several years. The original federally-funded program ended a few years ago, but Dr. Yamauchi still maintains contact with the program

and is supporting of their ongoing efforts. She now has a new externally funded project just starting that will also target schools with high percentages of Native Hawaiian students, so some of those schools may likely be on the Leeward coast.

- **Ka Waihona ‘O Ka Na‘auao New Century PCS:** Science faculty in COE’s Curriculum Research & Development Group (CRDG) have begun planning curriculum revisions and professional development in collaboration with the Ka Waihona Public Charter School’s faculty to implement an articulated and sequential science program for grades K–6. Professional development will begin in summer 2007

3. Curriculum Development

- **Ka Hana ‘Imi Na‘auao – A Science Careers Curriculum Project:** Federally funded project working with 1 science/agriculture teacher, 4 classes and 1 special education/science teacher at Nanakuli High targets grade 11-12 Native Hawaiian students. Three other teachers at Kaimuki, Roosevelt, and Waialua are also involved. Activities this year are to develop and pilot culturally responsive, career focused lessons, activities, trips, etc. while tracking student outcomes, especially toward science-related careers. Activities next year are to field test the draft curriculum and resources at Nanakuli and other state schools yet to be determined.
- **Science In Hawai‘i: Na Hana Ma Ka Ahupua‘a – A Culturally Responsive Curriculum Project:** Project worked with 2 science/agriculture teachers, 4 classes, over 2 years (2004-06) to develop and pilot gr. 8-11 place-based, Hawaiian-centered curriculum; also worked with 3 Wai‘anae HS science/aquaculture teachers. Activities this year are a DOE approved 3-credit professional development course being taught to 5 teachers to help them adapt this curriculum to the science courses they teach. Activities coming up include a second course to be offered on O‘ahu beginning in mid-August.

4. Curriculum Development, Professional Development, Evaluation

- **N_ Lama Heluhelu:** N_ Lama Heluhelu is designed to address the beginning reading needs of Native Hawaiian students in kindergarten through third grade. The project has established and supported fifteen beacon schools in communities serving large numbers of Hawaiian students at risk for reading difficulties. The beacon schools are supported to establish the following critical elements of effective schoolwide reading programs: (1) reading as an established school priority; (2) an assessment system that screens, monitors progress, and informs reading instruction; (3) research-based core and supplemental reading programs

and materials; (4) sufficient and protected instructional reading time; (5) differentiated instructional groupings, materials, and flexible schedules to assist struggling readers; (6) administrative leadership and ability to allocate resources to support reading; and (7) ongoing professional development that supports building school-level expertise and capabilities. The project expects to serve approximately 6,300 students, including about 3,675 Hawaiian and Part-Hawaiian students and 250 teachers and school-level instructional staff. The Pihana Na Mamo Early Reading Initiative is in Kamaile and Ma`ili Elementary Schools on the Leeward Coast.

- **SPARK-Hawai'i Project:** SPARK (Supporting Partnerships to Assure Ready Kids) is working to improve the transition to kindergarten as well as to Grade 1 in at-risk communities in Hawai'i, New Mexico, Ohio, Georgia, North Carolina, Florida, Mississippi, and the District of Columbia. In 2006 SPARK-Hawai'i participated in all elementary public schools on the Leeward Coast (Kamaile, Leihoku, Ma`ili, Makaha, Nanaikapono, Nanakuli, Wai`anae, and Ka Waihona o ka Na`auao New Century Public Charter School). Susan York and Morris Lai, with funding from INPEACE (Institute for Native Pacific Culture and Education) evaluated Year 3 of the SPARK-Hawai'i project, which is funded by the W.K. Kellogg Foundation.
 - **Culturally-Relevant High School Science Curriculum:** A multi-disciplinary team is working to develop and pilot a careers-oriented, culturally relevant, standards-based high school science curriculum. Key goals are to address the historic academic underperformance of Native Hawaiians and Pacific Islanders, and to increase their eligibility for science-related jobs at all academic levels (Barbara Bruno, Kelly Roberts, Myles Murakami, Mike Cheape).
5. **Center on Disability Studies (CDS):** CDS is working with Kapolei High School with a project funded under the Steppingstones of Technology competition. The research is investigating the use of Text to speech software as a tool for improving the unaided reading comprehension and skills of students with learning difficulties. The intent of this project is to improve outcomes in postsecondary education for students with disabilities through the provision professional development for faculty and staff.
 6. **Educational Foundation Master's Degree:** The EdLeads summer master's program serves many teachers in the Leeward and central districts who have traditionally found it difficult to take classes during the regular semesters. The program allows them to take most of their coursework during the summer (over a two-year period) and to work on an action research/inquiry project during the intervening fall and spring. There is a higher

than usual (when compared to regular master's programs at UH) representation of candidates from the Leeward District and from neighbor islands.

7. **Faculty Working Through Kapiolani Community College:** Brenda taught (on overload) for the Health Sciences Department of Kapiolani Community College provided two courses for Community Health Workers last Fall, and again this Spring.

Hawai'i Institute of Marine Biology

1. **Spinner Dolphin Research:** Whitlow Au and his students have been conducting research on spinner dolphin research along the Wai'anae coast for seven years. Efforts have included acoustics characterization, spinner dolphin foraging, behavior, and genetics, as well as humpback whale genetics and photo IDing.
2. **Mesopelagic Boundary community Research:** Au also conducts research on the mesopelagic boundary community (lantern fish, shrimp, and small squid) that spinner dolphins and tuna feed on in the waters off Maukua Beach.
3. **Spotted Dolphin Research:** Plans are underway to begin conducting spotted dolphin research along the Wai'anae and southern shorelines (Whitlow Au).

Hawaiian Language Program

1. **Leeward Community College Outreach:** Hawaiian Language Program Academic Advisor Kaiwipuni Punihei Lipe recently conducted an outreach program to Native Hawaiian students at Leeward Community College who are interested in transferring to UH Mānoa. This program includes efforts to help facilitate the transfer and transition process for these students.

Law School

1. **Hawai'i Procurement Institute:** Drafted regulations implementing HRS 103D-906, which created the Hawai'i Small Business Preference Program. One of the key elements was a requirement that the State identify: geographic areas within the State, and underutilized workforce resources where government purchases using small business preferences will promote the purposes of this subchapter and improve the welfare of Hawaii's business and workers. We believe that these rules will directly support residents and businesses in Wai'anae and the Leeward coast by directing State purchases to that area.

2. **Elder Law Program:** Provides basic legal services to socially and economically needy older persons as well as counseling on legal issues to caregivers and family members of older persons on Oahu, including Wai‘anae and the Leeward Coast.

LLL

1. **Bible Translation:** A Mānoa affiliate faculty in Linguistics is helping individuals from the Wai‘anae coast translate the Bible into pidgin.

Museum Studies

1. **Nanaikapono Community School Museum:** Graduate student Ka‘iulani Akamine worked for 18 months at the only museum in the Hawai‘i DOE system as part of an internship in the Museum Studies Program. Nanaikapono Elementary School is located in Nanakuli

SOEST

1. **Faculty Ambassador Program:** Several faculty members have served as faculty ambassadors to Leeward high schools. Programs and activities vary depending on the interests and desires of the faculty members and the schools.
2. **Test of Engineering Aptitude, Math and Sciences (TEAM):** With the assistance of faculty ambassador Mark Rognstad, Waipahu High School participated for several years in this national engineering competition sponsored by the College of Engineering.
3. **For Inspiration and Recognition of Science and Technology (FIRST):** Faculty Ambassador Mark Rognstad has assisted the Waipahu High School FIRST team in this international robotics competition since 2001, providing the Hawai‘i Marine Center as a venue for students to work on their robots. Plans are underway for a Hawai‘i regional FIRST competition to be held at UHM in 2008.
4. **Hawai‘i Underwater Robot Challenge (HURC):** Faculty Ambassador Mark Rognstad developed this program together with Waipahu High School science teacher Bill Speed to allow Hawai‘i high school students to compete without traveling to the mainland. Several Leeward schools, including Waipahu and Campbell High Schools, have competed. The first HURC competition was held at Waipahu District Park Pool in 2003, before moving to the Kahanamoku Pool at UH M_{noa}.

Sea Grant Program

1. **Portable Classroom Design Project:** Portable classrooms are frequently placed in direct sunlight, with poor ventilation, poor lighting, and no air conditioning. As a result, they become very hot and stuffy and impede students' ability to learn. The School of Architecture's Environmental Systems Laboratory received funding to monitor several public school portable classrooms in Wai'anae, Koko Head, and Kaimuki, and to provide recommendations on what classroom features could be changed to mitigate the poor conditions. A follow-up project generated recommended designs for new portable classrooms that would be better learning environments. A replacement design is currently underway.
2. **Affordable, Low-Energy Housing:** Together, the costs of housing and utilities place much larger burdens on household budgets in Hawaii than on the mainland. The Center for Smart Building and Community Design is launching a new project to build an affordable, low-energy home that could be used as a working example for future low-income housing development projects on Hawai'i.
3. **BoKe Farms:** The Sea Grant College worked together with BoKe Farms of Wai'anae and Na Moku Aupuni O Koolau of Maui to test the feasibility of marketing apple snails collect from taro lo'i in Keanae/Wailua on Maui as a means of controlling the infestations. The College also assisted BoKe Farm to develop curriculum to use on the farm site.
4. **Aquaculture Extension Project:** This project provides technical assistance to Chinese catfish producers in Wai'anae and Pearl City in the form of new information and hands-on demonstrations and training in the use of a variety of reagents for the treatment of diseases, maintenance of water quality, growth enhancement, and induction of spawning.

Social Work

1. **Social Work Indigenous Conference:** Working together with multiple human service agencies in the Wai'anae area to organize this conference, to be held in June 2007 at the Makaha resort.
2. **Distance Education:** Currently preparing a Distance Education Bachelors of Social Work program for the Leeward Coast.

3. **Research:** Recently signed a Memorandum of Understanding with Wai‘anae Comprehensive Health to engage in joint community-university research activities.
4. **Workshop with author David Korten:** Wai‘anae workshop with author David Korten sponsored by the School of Social Work, with Pua Burgess and Hale Na‘au Pono.

Sociology

1. **Community Forum:** Facilitated (Eldon Wegner) a community forum at the Wai‘anae Coast Senior Center on behalf of the Policy Advisory Board for Elder Affairs. Approximately 40 elder persons, caregivers, and service providers attended the forum. The purpose was to learn through a group process about the needs of elder persons living in the Wai‘anae area. Many needs were identified and are being communicated to the Honolulu County Area Agency on Aging and to the Legislators for this area. We will be advocating for legislative support for improving the transportation available to both well-elderly and frail elderly, as these concerns were near the top of the expressed concerns.

Student Equity, Excellence, and Diversity (SEED)

1. **College Opportunities Program:** Works with counselors at Wai‘anae and Nanakuli high schools to get students to apply for a M_noa residential and year-long support program. Students who are select are from low-income families, do not meet M_noa admissions standards, are first in their families to attend college, come from underrepresented ethnic group, and are motivated to succeed in college.
2. **Na Pua No‘eau:** A Native Hawaiian Enrichment program for K-12 students. Activities include Saturday Academies, Ohana Day, and a summer institute at M_noa. Families from the Leeward area regularly participate.
3. **Talent Search:** A federal college prep and recruitment project will start in Spring 2007 to serve Nanakuli and Wai‘anae high schools.
4. **Program for Academic Literacy (PALS):** Will begin in Spring 2007 with four Leeward elementary schools (not yet selected). The program includes research and an after-school literacy intervention for grades 3-6.

Tropical Agriculture and Human Resources

1. **Research:** Tropical & Subtropical Agriculture Research (TSTAR) project entitled, "Soil organic matter management to improve soil quality on intensive vegetable farms in Hawaii" works with a vegetable farmer in Ma`ili. Another TSTAR project entitled "Determining the impacts of water pumping and alien species invasion on stream flow for a sustainable water resource management in Makaha Valley" is focused on the Makaha Valley.
2. **Instruction:** Jonathan Deenik, CTAHR faculty member, works closely with Mala Ai Opi a community based organic education Farm in Waianae Valley. He teaches interns in the program about soils and organic farming methods. CTAHR faculty are currently collaborating on developing curriculum for an Associates degree at Leeward Community College which involves a partnership between Leeward Community College, Mala Ai Opi and UH. Deenik has also been providing lectures on soils to students in the Agriculture Program at Waianae High School.
3. **Community Involvement:** Jonathan Deenick, CTAHR faculty member, is a board member of Hoa Aina O Makaha an education farm closely allied with Makaha Elementary School. He recently spearheaded a grant proposal to Honolulu County which secured approximately \$70,000 for Hoa Aina to upgrade their water system. He is one of the founding members of Mohala i ka Wai, a community based organization devoted to community based water resource management. We have developed a strong partnership with the Board of Water Supply.
4. Developing a Strategic Plan for Transforming Agriculture and Natural Resources Education," is an CTAHR-led NSF funded project aimed at the secondary, community college and post secondary levels, to meet the workforce needs of the agriculture and natural resources industries and other employers. Agriculture is most heavily concentrated on the leeward, central and north shore areas of Oahu, in addition to the neighbor islands. LCC is a co-PI and is partnering with Mao farms on the leeward coast. CTAHR and LCC are working with agribusinesses and agencies to most efficiently provide quality programs to these areas.

Urban and Regional Planning

1. **Na Mamo Makamae:** A leadership program for Native Hawaiian Youth conducted by QLCC (Dolores Foley).

2. **Service Learning:** Students enrolled in PLAN 610 and PLAN 741 conduct service projects in conjunction with the Empower Wai‘anae community group (Dolores Foley).
3. **Digital Media Halau Project:** A three-year grant to evaluate this Wai‘anae Coast Community-Based Youth Education, Entrepreneurship, and Economic Development Initiative. The Project involves Wai‘anae and Nanakuli Schools and enrichment programs conducted by Olelo (Dolores Foley).

Water Resources Research Center

1. **Wai‘anae Wastewater Treatment Plant Project:** Funded by the City Environmental Services Department, this 15-year project aims to ensure that wastewater effluent does not cause significant environmental deterioration. UH faculty, staff, graduate students, and consultants analyze water samples collected by city crews and WRRC divers for species diversity and population.

Space Grant Consortium

The Hawaii Space Grant Consortium is a wide-ranging community educational program supported by NASA that promotes studies in scientific fields related to space. These fields include astronomy, geology, meteorology, oceanography, mathematics, physics, engineering, computer science, and life sciences. Affiliate campuses are UH-Hilo, all seven Community Colleges (Hawaii, Honolulu, Kapiolani, Kauai, Leeward, Maui, and Windward), and the University of Guam. The following are some of the programs supported by Space Grant:

- Undergraduate Fellowship and Traineeship programs (approximately 10-20 students per semester are supported)
- Future Flight Program for teachers, school students and their parents (summer program)
- K-12 Outreach
- Family Science Nights; visitation to elementary schools for a family night full of fun science demonstrations and to encourage involvement of NES programs, Space Grant programs and other STEM-related educational initiatives.
- Botball
- Robotics (sponsorship)
- Astronaut Days
- Lacy Veach Astronaut Day (Location: Punahou Schools)
- Ellison Onizuka Astronaut Day (Location: Hilo)

- Summer teacher workshops
- Undergraduate remote-sensing class
- CanSat project geared for Community College students to create a satellite similar to UHM's own CubeSat project
- Undergraduate Internship Program awarded for students to participate in a Science, Technology, Engineering, and Mathematics (STEM) related research at local businesses
- Graduate Master's Apprenticeship Program
- Outreach to state and federal agencies related to the use of satellite and aircraft remote-sensing data.

A significant goal of the program is to encourage interdisciplinary studies and research and to train future generations of space scientists and engineers. Students, teachers, and researchers in Hawaii are encouraged to contact UHM Space Grant office at (808) 956-3138 or view the web at <<http://www.spacegrant.hawaii.edu>>www.spacegrant.hawaii.edu to learn more about the opportunities.

The Hawaii Space Grant Consortium has been actively engaging students, teachers, and parents on Leeward Oahu through a number of programs designed to get children excited about high-technology careers and scientific research. Our lead-in to these programs is the Family Science Night where we bring science to the Leeward side. The Family Science Nights take place in the host school cafeteria and must have the support of the principal as well as 6-8 science teachers from the host school. Family Science Nights are a series of short information sessions and hands-on science learning activities that the students and their attending parents enjoy. We require 100 students and parents for each Family Science Night and frequently get more than that. We maintain a waiting list for schools who want to host a program. On the Leeward side, we have held Family Science Nights at

August Ahrens Elementary
 Honowai Elementary
 Kaleiopuu Elementary
 Kanoelani Elementary
 Lehua Elementary
 Nanakuli Elementary
 Pearl City Elementary
 Waikele Elementary
 Waipahu Elementary

We encouraged all of these schools to become a NASA Explorer School which would have offered them 3 years of NASA support for science and education. Hawaii was fortunate to have Pearl City Elementary chosen as an Explorer School.

We also host the annual Botball and FIRST robotics programs. Waipahu High, Waipahu Intermediate, and Highlands Intermediate have participated in the Botball program. In addition, we have a home school group in Kapolei that participated in Botball. The FIRST program is for high school teams. Waipahu High has competed in the FIRST program with Hawaii Space Grant support.