

SB 1256

Report Title:

RELATING TO THE PACIFIC INTERNATIONAL
SPACE CENTER FOR EXPLORATION SYSTEMS

Measure Title:

Appropriates funds to support operations and
the purchase of equipment required to support
the Pacific international space center for
exploration systems activities

George R. Ariyoshi
999 Bishop Street, 23rd Floor
Honolulu, HI 96813

February 1, 2013

**TESTIMONY IN SUPPORT OF SB1256 - RELATING TO THE PACIFIC
INTERNATIONAL SPACE CENTER FOR EXPLORATION SYSTEMS (PISCES)**

Dear Members of the 27th State Legislature,

I strongly support the intent of this bill to provide state funding to employ staff and purchase equipment essential to sustain PISCES operations through June of 2014.

Hawaii's strategic mid-Pacific/near-equatorial location, Moon/Mars-like terrain, resident expertise in multiple aerospace-related technologies, and long-standing ties with space-faring nations throughout Asia and the Pacific, clearly afford strategic assets and capabilities that can be leveraged to realize humankind's full potential in space, and in so doing enable our State to engage as both a major contributor to and beneficiary of the global space enterprise.

In addition, there are emerging trends in the aerospace industry – both national and global – that will afford additional opportunities for the Aloha State. Consider, for example, the recent emergence of commercial space enterprise and a resurgence of international space programs that will involve significant private sector investment in the development, testing, validation, and verification of robotics systems, broadband telecommunications, energy production, energy storage, and waste recycling – all of which could be supported through and lead by innovative initiatives in Hawaii.

The Pacific International Space Center for Exploration Systems (PISCES), for which I serve as Board Chairman, is designed to leverage Hawaii's intrinsic assets and capabilities, as well as the emerging global trends in the aerospace industry, toward developing a world-class center of excellence in Hawaii that can facilitate the design, testing and validation of new technologies to support both robotic and human missions to space. In so doing, PISCES will serve as an economic driver for the island of Hawaii that

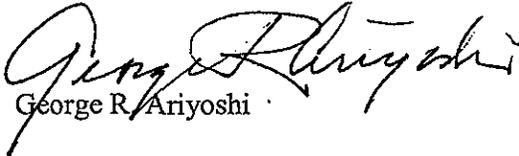
will promote the establishment and growth of new sustainable “green” industries, along with associated high-paying jobs, professional internships, and new science, engineering and math education programs statewide.

Recognizing this significant opportunity, the State Legislature established PISCES as an attached agency to the Department of Business, Economic Development and Tourism (DBEDT), appropriating general funds to support PISCES operations (through Act 169 in the 2012 Session). Although this funding has enabled the department to hire professional staff to manage PISCES operations and begin development of the proposed PISCES aerospace R&D park on the Big Island, these funds will be completely expended by the end of this fiscal year. As such, additional general funding will be critically needed to maintain PISCES operations through FY14 (which is the primary intent of this legislation).

As such, I would urge you pass SB1256 with the requested funding allocation, and would be happy to address any questions you may have concerning this recommendation. I can be reached by e-mail at kyahiku@wik.com , by phone at (808) 544-6765 or by fax at (808) 544-8398.

Thank you for the opportunity to testify on this bill.

Aloha,


George R. Ariyoshi

GRA:khy



**DEPARTMENT OF BUSINESS,
ECONOMIC DEVELOPMENT & TOURISM**

NEIL ABERCROMBIE
GOVERNOR

RICHARD C. LIM
DIRECTOR

MARY ALICE EVANS
DEPUTY DIRECTOR

No. 1 Capitol District Building, 250 South Hotel Street, 5th Floor, Honolulu, Hawaii 96813
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Statement of

RICHARD C. LIM
Director

Department of Business, Economic Development & Tourism
before the

**SENATE COMMITTEE ON
PUBLIC SAFETY, INTERGOVERNMENTAL AND MILITARY AFFAIRS**

Tuesday, February 5, 2013

2:45 p.m.

State Capitol, Conference Room 224

in consideration of

SB 1256

**RELATING TO THE PACIFIC INTERNATIONAL SPACE CENTER FOR EXPLORATION
SYSTEMS (PISCES).**

Chair Espero, Vice Chair Baker, and members of the Committee. The Department of Business, Economic Development and Tourism supports the intent of this bill to provide state funding to employ staff and purchase equipment essential to sustain PISCES operations.

This legislation builds upon Act 169 from the 2012 Session, which established PISCES as a program administratively attached to our department through the Office of Aerospace Development. Although this Act appropriated initial funding for PISCES operations, it is anticipated that these funds will be completely expended by September of this year.

Funds to enable PISCES to continue operations through June of 2014 may be requested by a Governor's Budget Message.

We support this bill provided that its passage does not replace or adversely impact priorities indicated in our Executive Budget.

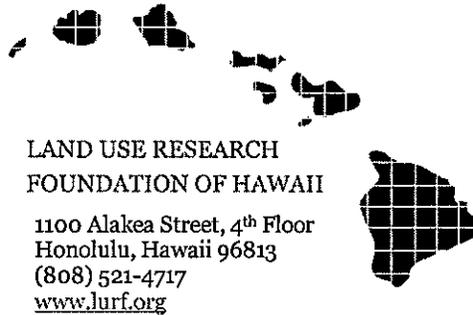
Thank you for the opportunity to testify on this bill.

SB1256

Submitted on: 2/1/2013

Testimony for PSM on Feb 5, 2013 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
David Arakawa	Land Use Research Foundation of Hawaii	Support	No



LAND USE RESEARCH
FOUNDATION OF HAWAII

1100 Alakea Street, 4th Floor
Honolulu, Hawaii 96813
(808) 521-4717
www.lurf.org

February 1, 2013

Senator Will Espero, Chair
Senator Rosalyn H. Baker, Vice Chair
Senate Committee on Public Safety, Intergovernmental and Military Affairs

Testimony in Support of SB 1256 Relating to the Pacific International Space Center for Exploration Systems (Appropriation).

Tuesday, February 5, 2013, 2:45 p.m., in Conference Room 224

The Land Use Research Foundation of Hawaii (LURF) is a private, non-profit research and trade association whose members include major Hawaii landowners, developers and a utility company. LURF's mission is to advocate for reasonable, rational and equitable land use planning, legislation and regulations that encourage well-planned economic growth and development, while safeguarding Hawaii's significant natural and cultural resources, and public health and safety.

LURF appreciates the opportunity to express its **support of SB 1256**, which will provide the operational and equipment funding necessary for the Pacific International Space Center for Exploration Systems ("PISCES") to manage and facilitate its work in bringing aerospace technology and corporations to Hawaii, expand and diversify Hawaii-based industry, and provide the training relevant to preparing Hawaii's workforce for employment in technology-related fields.

SB 1256. The purpose of this bill is to appropriate fiscal year 2013-2014 funds to support the operations and the purchase of equipment required to sustain PISCES activities.

LURF's Position. The Legislature established PISCES through Act 169, Session of Laws of Hawaii 2012, to leverage Hawaii's substantial assets and capabilities in the space industry to advance our national space program and provide unique opportunities to expand and diversify technology-based enterprise and education in the State of Hawaii. LURF supports PISCES, which will develop a world-class center of excellence in Hawaii that can facilitate the design, testing, and validation of new technologies to support robotic and human missions to space, and in so doing serve as an economic driver for the island of Hawaii that will promote the establishment and growth of new sustainable and green industries along with associated jobs, workforce development, internships, and science, technology, engineering, and math education programs.

Thank you for the opportunity to present testimony in support of this measure.



UNIVERSITY OF HAWAII SYSTEM

Legislative Testimony

Testimony Presented Before the
Senate Committee on Public Safety, Intergovernmental and Military Affairs
February 5, 2013 at 2:45 p.m.

by
Donald O. Straney, Ph.D.
Chancellor, University of Hawai'i at Hilo

SB1256 RELATING TO THE PACIFIC INTERNATIONAL SPACE CENTER FOR EXPLORATION SYSTEMS

Chair Espero, Vice Chair Baker and Members of the Committee:

My name is Donald Straney, Chancellor of the University of Hawai'i at Hilo (UHH). We support the intent of SB1256 to fund the Pacific International Space Center for Exploration Systems (PISCES) to manage and facilitate its work to expand and diversify technology-based enterprises and education in Hawai'i.

This proposal will help to stimulate the growth of our State economy through aerospace research, the development, testing and evaluation of new technologies that support the exploration of space and the creation of new careers. UH Hilo views the proposal as an opportunity to collaborate with PISCES to provide higher education and career options to the people of our Hawai'i Island.

We support SB1256 provided that its passage does not replace or adversely impact priorities in our BOR approved budget.

Thank you for the opportunity to testify on SB1256. Aloha.

SB1256

Submitted on: 2/4/2013

Testimony for PSM on Feb 5, 2013 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Mark McGuffie	Enterprise Honolulu	Support	No

SENT VIA EMAIL

February 4, 2013

Senator Will Espero
Chair, Committee on Public Safety, Intergovernmental and Military Affairs
Senator Rosalyn H. Baker
Vice Chair, Committee on Public Safety, Intergovernmental and Military Affairs
Hearing on Senate Bill 1256
Relating to the Pacific International Space Center for Exploration Systems (PISCES)
State Capitol, Conference Room 224

Aloha Chair Espero and Vice Chair Baker!

Enterprise Honolulu stands in strong support of Senate Bill 1256, the purpose of which is to appropriate the necessary funds for the operations and the purchase of equipment required for PISCES activities during fiscal year 2013-14.

The PISCES initiative is showing tremendous promise supporting Hawaii's existing robotics programs, STEM education and connecting students to future new technological opportunities. We ask for your legislative support.

Please feel free to contact me directly should you have any questions.

Sincerely,


Mark McGuffie
Managing Director
Enterprise Honolulu, Oahu Economic Development Board



ENTERPRISE
HONOLULU

THE BUSINESS CLIMATE OF PARADISE

735 Bishop Street, Suite 424, Honolulu, Hawaii 96813 • 808-521-3611
Fax: 808-536-2281 • www.enterprisehonolulu.com

SB1256

Submitted on: 2/3/2013

Testimony for PSM on Feb 5, 2013 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Frank Schowengerdt	Individual	Support	No

Testimony in strong support of S.B. 930, S.B. 1256, and H.B. 1419

January 31, 2013

To Members of the 27th Hawaii State Legislature:

I am writing to strongly endorse three bills relating to the Pacific International Space Center for Exploration Systems (PISCES). These bills include: S.B. 930, S.B. 1256, and H.B. 1419. Please include these comments as written testimony in favor of these measures.

As the former and founding director of PISCES, I am intimately familiar with its history and, as a result, with its great potential as an economic development tool for the State of Hawai'i in general and the Big Island of Hawai'i in particular.

During its first five years of operation (while I served as its director), PISCES became a household word at NASA headquarters and throughout the NASA field centers. This came about through the numerous collaborative efforts we instituted with the agency, the funding proposals we submitted for NASA funding, the PISCES conferences NASA personnel attended, and the three major field demonstrations NASA conducted at the PISCES test sites. These campaigns brought substantially more money into the local economy and UH Hilo than was spent by the State, providing seed funding to PISCES.

Also during this five-year period, while establishing our credibility with our principal funding agency (NASA), we also made major progress building relationships with the local community. These relationships were anchored in our Cultural Advisory Board comprised of local community leaders, many of them from the education sector (both K-12 and university). This Board guided our efforts to reach out to other civic leaders and organizations. A key component of this outreach included periodic presentations we gave to local K-12 classes, often involving NASA engineers who were visiting Hawaii to perform field tests at PISCES. Other outreach efforts included Onizuka Days and the Big Island Science Fair, which PISCES personnel helped judge and at which a PISCES award was given to the entry with the greatest significance for space exploration.

All of these successes with external funding and local engagement have put PISCES in a sound position for further progress under new leadership and restructured administration with the Department of Business, Economic Development and Tourism (DBEDT), the University of Hawai'i at Hilo (UHH), and the Research Corporation of the University of Hawai'i (RCUH). I am very optimistic that PISCES can grow even stronger in this new environment. I also am fully supportive of PISCES' new director, Rob Kelso, and am encouraged by the confidence and enthusiasm with which he has evidenced in this position. His contacts and experience with public/private partnerships at the NASA Johnson Space Center will bring added credibility to PISCES as it pursues its own partnerships with industry, particularly with Google Lunar X-Prize contestants.

However, in order to ensure that PISCES is able to achieve its full potential, it is absolutely critical (from both an internal and external perspective) that the Legislature maintain its traditional support for this outstanding program, and that adequate funding be provided in the coming fiscal year to enable PISCES' continued development. The funding levels indicated in all three bills are essential for this purpose, and I would strongly urge you to appropriate the full amounts proposed.

Concerning aerospace in Hawai'i in general, of which PISCES is a most prominent component, I can think of no other industry with greater economic development potential for your State. Given its central location relative to the many space-faring countries around the Pacific Rim, its proximity to attractive ocean-based launch sites, its own advantageous location for horizontal-launch sub-orbital flights that promise to be early leaders in the emerging space tourism market, its Martian- and Lunar-like terrain and soil that have made PISCES the premier "go-to" place for international tests of rovers, material processing equipment bound for space, and energy collection technologies for future space outposts, and the countless spinoffs to the State's economy from all of these opportunities, Hawai'i is in an excellent position to become both a major leader in and beneficiary of global space enterprise. The best way to realize this potential, in addition to funding PISCES, is to fully fund and support the Office of Aerospace Development within DBEDT.

This leadership won't happen overnight, and as such should not be compared to quick "show-me-the-money" economic fixes for the State. Over the long run, with steady State support, aerospace will produce good, high-paying jobs that can't be outsourced. Other states that historically have led in this field have found this to be true; but again, it didn't happen overnight. California's formidable aerospace industry was built mostly on defense and other government enterprises initiated during World War II. Other states, such as Alabama, Florida and Texas saw their aerospace fortunes evolve with NASA. But Hawai'i has different and, in some ways, stronger attributes for becoming a truly international leader in aerospace (as discussed above), and can leverage these assets and capabilities to help pioneer the space frontier.

In conclusion, I urge you to continue funding PISCES at a level that will evidence to both our nation and the world that Hawai'i means business when it claims to pursue a leadership role in aerospace. PISCES is a superb example of what State funding can enable in this industry. Thank you for your historical and continuing support for this program.

Sincerely,



Dr. Frank Schowengerdt
Former Director, PISCES
Former Director, Space Product Development and Innovative Partnerships Programs
NASA Headquarters
Former Vice President for Academic Affairs and Dean of the Faculty
Colorado School of Mines

SB1256

Submitted on: 2/3/2013

Testimony for PSM on Feb 5, 2013 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Stephen Day	Individual	Support	No

International Ventures, Associates, 5333 Potomac Ave. NW, Washington. DC 20016

January 30, 2013

Members of the 27th State Legislature
Hawaii State Capitol
415 S. Beretania Street
Honolulu, Hawaii 96813

Re: **SB1256**. Appropriates funds essential to sustain operations and support purchase of equipment for PISCES through June, 2014, building upon the PISCES aerospace R&D park initiative launched through Act 169 during the 2013 Session.

I am pleased to provide testimony in strong support of this measure.

The Pacific International Space Center for Exploration Systems (PISCES) is a timely and most promising initiative that evolved over several years through multinational dialogue and exchange between space-faring nations around the Asia-Pacific region (sponsored by the Japan-U.S. Science, Technology and Space Applications Program, or JUSTSAP, for which I served as Chairman).

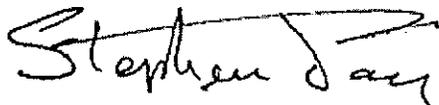
The Hawaii State Legislature has been a strong supporter of PISCES since its inception, and, as a result, PISCES has gained substantial visibility at NASA, as well as among other international Space agencies in Asia, Canada and Europe, and also has entered into research and development alliances with private sector partners, such as the Boeing Company, NORCAT, and Shackleton Energy, to conduct a variety of research applications and field experiments.

It is clear that PISCES has tremendous potential to help advance U.S. Space exploration technology, with direct applications in Hawaii that will provide substantial revenue streams, high-paying jobs, and enhanced technical and educational (STEM) capabilities statewide.

It is therefore critical that appropriate funding be sustained for this initiative through the coming Fiscal Year. As such, I strongly urge your Legislature to appropriate the funding support requested for PISCES through this legislation.

Thank you for the opportunity to testify on this measure.

Sincerely,



Stephen M. D. Day

Chairman Emeritus
Japan-U.S. Science, Technology & Space Applications Program (JUSTSAP)
Member, Hawaii Aerospace Advisory Committee

SB1256

Submitted on: 2/3/2013

Testimony for PSM on Feb 5, 2013 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Lewis Peach	Individual	Support	No

Testimony in strong support of **SB 930**, **SB 1256**, and **H.B. 1419**

To the Members of the 27th Hawaii State Legislature:

I am deeply honored to have the opportunity and great privilege to offer my testimony in strong support of Hawaii State Bills SB930, SB1256 and HB1419, providing State support for the Pacific International Space Center for Exploration Systems (PISCES).

I regret that I am unable to offer my testimony in person, however unfortunately these hearings conflict with a long-standing prior commitment, as I will be hosting an important event for NASA, and many of our international space agencies partners, at NASA's Kennedy Space Center this week, so please accept this written testimony as my strongest endorsement of your continued leadership in this important work.

I would like to begin by thanking you for the opportunity to serve as a member of the Board of Directors for PISCES, an opportunity that affords me the honor of working with an incredible team from the Hawaii Office of Aerospace Development, the University of Hawaii, and the Legislators of the great State of Hawaii, that collectively embraced the vision to establish this vitally important asset that will enable Hawaii to become both a leader in, and major beneficiary of, the next bold step for humanity - the sustainable exploration, commercial development, and settlement of space.

PISCES is clearly an enterprise that will allow Hawaii to demonstrate its continued leadership in international space endeavors, and that will continue to afford exceptional economic and societal returns to humanity on Earth, as well as inspire strong interest in the pursuit of science, mathematics and engineering among students in pursuit of careers that will enhance economic prosperity and wellbeing for future generations.

It is entirely fitting that Hawaii, founded by courageous navigators during the great age of human migration and exploration on our planet, would now become a world leader in forging humanity's next "giant leap" into the future, and I commend your leadership for supporting the great vision and opportunity that is embodied in PISCES.

As a retired Senior Executive Service member of NASA, I have dedicated my entire career to the exploration of space, and I continue to support this enterprise as a consultant and advisor to NASA, as well as a space advocate on behalf of both key policy makers in Washington, DC, and many international space agency partners.

In fact, I spent most of this past week with my long-time good friend and space pioneer, Dr. Buzz Aldrin (who also joined me at the recent PISCES Conference on the Big Island in November 2012), talking with key policy officials and executives at the White House, NASA Headquarters, the State Department, and other government organizations. During these discussions, we frequently referenced the important role that PISCES can play in helping our nation realize its full potential on the space frontier.

As we learned from the earliest days of human space flight (during the Mercury, Gemini and Apollo Programs), the ability to conduct high-fidelity analog demonstrations is key to validating the instruments, systems, and processes that will be used in actual space missions.

As the former Director of Advanced Programs at NASA, I co-founded the NASA/NSF (National Science Foundation) Antarctic Analog Program nearly twenty-five years ago. This program continues to sponsor some of the world's leading scientists to conduct groundbreaking science in this region, as well as to validate the types of scientific investigations that we will one day conduct on the Moon, on Mars and its moons, on Saturn's moon Europa, and on other planetary bodies.

I also sponsored work at additional exploration analog sites in the Arctic region, as well as in the deserts of the Southwest and in other areas, which offer high-fidelity analogs for the scientific and technological investigations we will conduct elsewhere in our solar system.

Clearly, this type of analog research will enable us to understand our own origins, address questions about the uniqueness or abundance of life in the universe, and expand our fundamental knowledge about the fate of our home planet and our future in the universe.

The Big Island affords one of the highest fidelity lunar analog sites on Earth that can be used to test and validate new technologies that will enable humankind's inevitable journey beyond Low-Earth Orbit (to the Moon, Asteroids, Mars and beyond). As such, PISCES will present tremendous opportunities for the United States, and for other space-faring nations, to economically demonstrate and refine space-faring hardware and systems in preparation for future interplanetary missions, while also creating exceptional economic benefits to Hawaii.

In addition, this research will also support the development of new manufacturing processes and procedures to utilize natural, *in situ* resources in an environmentally conscious way, while also enabling new approaches to harness energy to power to sustain future exploration sites on the moon and Mars, as well as state of the art tele-robotic and autonomous robotic systems for applications both in space and on Earth – all of which will provide new business and employment opportunities in Hawaii.

The unique attributes of PISCES as a premier analog site will also afford opportunities for new education, workforce development, and other social, environmental and economic programs statewide.

I am most honored to have an opportunity to contribute toward the development of PISCES, and again would strongly encourage your continued leadership in supporting this timely and vitally important program for Hawaii, and for the international space program community.

Respectfully,

Lewis L. Peach, Jr.
Member, PISCES Board of Directors

SB1256

Submitted on: 2/3/2013

Testimony for PSM on Feb 5, 2013 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Hoyt Davidson	Individual	Support	No

Hoyt L. Davidson
Managing Partner
Near Earth LLC
243 Tresser Boulevard, 17th Floor
Stamford, CT 06901

February 3, 2013

**TESTIMONY IN SUPPORT OF SB1256 – RELATING TO THE PACIFIC INTERNATIONAL
SPACE CENTER FOR EXPLORATION SYSTEMS (PISCES)**

Dear Members of the 27th State Legislature,

I strongly support the intent of this bill to provide Hawaii State funding to cover the employee and overhead costs and essential equipment purchases to sustain PISCES operations through June, 2014.

I believe PISCES represents a great opportunity for Hawaii to use its location and special geological terrain to benefit its citizens and the global community. These last few years have seen increased international interest in robotic space exploration. This interest is coming from the governments and space agencies of multiple nations, prominent universities, research institutions, aerospace companies, and, perhaps most encouraging, commercial space entrepreneurs. Together these entities want to extend human knowledge, explore our solar system, and build sustainable businesses in space. There is also a heightened sense of excitement within the general population supporting these space endeavors, as can be witnessed in our media and culture.

NASA's successful Curiosity mission to put a roving scientific lab on Mars is perhaps the most well-known recent space initiative to highlight what can be achieved robotically; however, the European Union and such countries as China, India and Russia have stated plans to run their own robotic space exploration missions, many targeted at the Moon. For instance, we now know the Moon holds many important minerals and enough water to one day support a lunar colony. However, before such a manned presence can be sustained economically and with optimal efficiency, many precursor robotic missions will need to be conducted for surveying, mineral and water extraction, and construction of bases and communication networks. Meanwhile, several private enterprises have arisen with business plans focused on robotic in-orbit refueling, repair and relocation of satellites, transportation services to the lunar surface, and even asteroid mining. As the Managing Partner of an investment bank focused on the commercial space sector, I am seeing increased investor interest in backing companies that plan to develop or use space robotics.

Before governments and investors commit to conduct such missions and develop these new robotic capabilities, they need to reduce the risk of failure and increase the level of performance per dollar invested. Basically, what the world needs is a center of excellence where these robotic technologies can be developed, tested and demonstrated in an environment that matches as close as terrestrially possible the regolith and terrain to be found on the Moon, Mars and other celestial bodies. That is where Hawaii and PISCES come in. Hawaii has a unique opportunity at a unique point in time.

Perhaps of equal or greater importance will be all of the side benefits that may come from the Earth-bound uses of robotic technologies perfected in part at PISCES. This century will most likely see an increasing use of robotic technology in almost every industry. PISCES could help the State of Hawaii play an important role in this new wave of innovation.

I therefore strongly encourage you to pass SB1256 with the requested funding allocation. I am available to answer any questions you may have and can be reached at (203) 355-3527 or by email at hoyt@nearearthllc.com.

Thank you for the opportunity to testify on this bill.

Aloha,

A handwritten signature in black ink, appearing to read "Hoyt Davidson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Hoyt Davidson

SB1256

Submitted on: 2/3/2013

Testimony for PSM on Feb 5, 2013 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Galen Ho	Individual	Support	No

February 3, 2013

Galen I. Ho

1946 Young Street, Suite 480

Honolulu, Hawaii 96826

TESTIMONY IN SUPPORT OF SB 1256 –FUNDING SUPPORT FOR THE PACIFIC

INTERNATIONAL SPACE CENTER FOR EXPLORATION SYSTEMS (PISCES)

Dear Members of the 27th State Legislature,

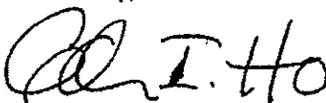
I am writing to strongly support the intent of this bill to provide funding for the staff and facilities of PISCES. Their mission to bring Hawaii's assets & capabilities in an emerging commercial space sector along with a growing set of global space based initiatives will serve Hawaii well, in the areas of robotics, energy generation & storage and broadband communications. Developing a world class center of excellence that can support robotic and human missions to space will provide a knowledgeable workforce, internships and the supporting Science, Technology and Engineering careers that will have a substantive impact on the future of our State. I have seen the remote robotics efforts being developed on the Big Island, in conjunction with NASA and have seen students who have participated in State Robotic activities, almost mesmerized by these developments when they are demonstrated. That capability was also demonstrated by PISCES at APEC-2011.

I personally have been affiliated with the PISCES program and people thru my non-profit work as President of SEE-IT (Science, Engineering Exhibition-Innovative Technologies), Hawaii, which was displayed at APEC and at the Hawaii Convention Center in 2012.

As an Interim (newly appointed) PISCES board member, I am pleased to lend my time and support to this strategic effort in Hawaii and hope that you will provide the funding thru this bill for efforts thru FY 14 and urge you to pass SB 1256.

You can reach me by phone at 607-759-6342 or by my e-mail, gho@cbipolymers.com or by letter at the above address, should you have any questions.

Sincerely,



Galen I. Ho

SB1256

Submitted on: 2/3/2013

Testimony for PSM on Feb 5, 2013 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Jim Keravala	Individual	Support	No



SHACKLETON ENERGY COMPANY
3511 Caldwell Lane, Del Valle, TX 78617-3017

2nd February 2013

**Testimony in Support of SB1256
Relating to the Pacific International Space Center for Exploration Systems (PISCES)**

Dear Members of the 27th State Legislature

I strongly support the intent of this bill to employ staff and purchase equipment essential for PISCES ongoing operations through June 2014.

There exists a gathering resurgence of commercial space exploration initiatives that include both surface to space launch activities but of more relevance a number of in-space commercial companies established to provide services such as resource utilization, habitation, autonomous operations and other activities.

Many of these organizations are of US origin but many are also developing in Europe, Asia and other territories. Unlike the large isolated space programs of a generation ago, today's commercial space activities are collaborative in nature over international boundaries. More than ever, cost efficiencies as well as standards and procedures collaboration are paramount in new space ventures and activities, even between National Space Agencies.

As the trend for collaboration meets with the emergence of space resource utilization companies, a pressing requirement emerges for a center of excellence that can cross international boundaries, yet offers unique operational value for the development and testing of new vehicles, processes and methods of resource extraction and surface mobility on other worlds and extreme environments. The unique geology of the Islands of Hawai'i serves as a testing ground for these and many other operational functions. More than that, the equitable location between the Americas and Asia provides a convenient convergence for a great majority of the participants involved in this field to cooperate and collaborate.

It is essential that this facility receives the required financing for staff and capital equipment to perform its duties as a flagship center to secure leadership in this new field which will enhance the local economy, provide jobs, education and inspiration for an entire generation.

In light of the above, I strongly support the intent of SB1256 and would urge the Legislature to appropriate the full funding amount requested through this legislation.

Best regards

A handwritten signature in black ink, appearing to read "Jim Keravala".

Jim Keravala
Chief Operating Officer
Shackleton Energy Company, Inc.
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jim.keravala@shackletonenergy.com
www.shackletonenergy.com

"Fueling the Space Frontier"

SB1256

Submitted on: 2/4/2013

Testimony for PSM on Feb 5, 2013 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Elliot Pulham	Individual	Support	No



February 3, 2013

Members of the 27th Hawaii State Legislature
Hawaii State Capitol
415 S. Beretania Street
Honolulu, Hawai'i 96813

Aloha Members of the Hawaii State Legislature,

As the Chairman of the Hawai'i Aerospace Advisory Committee, I am writing to express my strong support for SB1256, which would appropriate funds through June 2014 essential to sustaining operations and the purchase of equipment for the Pacific International Space Center for Exploration Systems (PISCES), building upon the aerospace R&D park initiative created through Act 169 during the 2012 Legislative Session.

PISCES is now off and running, with a project agreement in place between the Department of Business, Economic Development and Tourism (DBEDT) and the Research Corporation of the University of Hawai'i (RCUH). An Executive Director has been hired and a Space Act Agreement signed between the State of Hawai'i and the National Aeronautics and Space Administration (NASA) to support PISCES-related programs. The PISCES staff is currently in vigorous pursuit of space research and development initiatives to be implemented through the Center, while at the same time establishing community partnerships that will support PISCES growth and diversification on Hawai'i Island.

This significant momentum needs to be maintained to enable PISCES to achieve its full potential. As such, I strongly urge your committee to support passage of SB1256 to help bring this Center's timely opportunities to the Aloha State.

'O wau me ka ha'aha'a,

Elliot Holokauahi Pulham
Chairman

Dear Members of the 27th State Legislature,

My name is Henk Rogers. I am a computer software entrepreneur, although my interests have now turned to how to make Hawaii, and then the world, into a better place. My efforts in this area include ending the use of carbon based fuel, to which the Blue Planet Foundation is dedicated, making worldwide peace and making a backup of life on earth (on another planet).

Why should we care about space exploration?

65 million years ago, an average size asteroid hit this planet and wiped out the dinosaurs. The reason they went extinct is that they were too dumb to get off planet. It's worse for humans in that we know how to do it, we are just haven't gotten around to doing it. In other words, we have the technology, we just haven't applied it.

Another way of looking at space exploration is that the most amazing thing ever to happen to this planet is life. It doesn't matter whether you believe life is here because of spontaneous generation (meaning it happened on this planet by accident), pan-spermia (meaning it came from outer space) or divine intervention (meaning God made it happen). It's still the most amazing thing to ever happen on this planet.

Planets around other stars are being discovered at an amazing rate. One could almost say that most of the stars out there today have planets. There are, something like, one hundred billion stars in the Milky Way (that would be the galaxy we live in). Just imagine how many planets there could be out there that can support life (as we know it). If we were to bring life (as we know it) to just one of those planets, it would be the greatest single deed that we as a species could ever hope to accomplish.

Why should Hawaii care about space exploration?

Make no mistake about it, space exploration will happen. Those who will make it happen will become the most technologically advanced people on this planet. What greater gift could we give to the children of Hawaii than that kind of technological leadership? We will go from being known as a tourist destination to being a center or even the center for space exploration. And, we can do it in one generation!

Hawaii suffers from an inferiority complex. We think we can't do serious STEM related stuff in Hawaii. People think that areas involving science, technology, engineering and mathematics are better done in places on the mainland or in Japan, Korea or China. The only reason that we think so is that our smartest graduates have to go to the mainland to work on jobs that involve STEM. If we were to be able to make Hawaii a center for space exploration we would be creating STEM related jobs in Hawaii for generations to come.

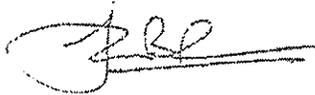
You, as our legislators, have a rare opportunity. You can help to bring the business of space exploration to Hawaii for our children. You can once and for all give them the hope, the pride and the self-confidence to compete with the best STEM centers in the country, in fact with the best STEM centers in the world.

I implore you not to miss this opportunity. I ask you for this not for myself. I ask you for this not for my friends or my family. I ask you to support PISCES for all of the keikis of Hawaii for generations to come. Give them a future they can be proud of. Give them high paying jobs here at home in Hawaii. Give them the opportunity to be a part of the next big wave in technology... space exploration.

This is you moment to act.

Support PISCES!

Mahalo and Aloha,

A handwritten signature in black ink, appearing to read 'H. Rogers', with a horizontal line underneath.

Henk B. Rogers
Entrepreneur

SB1256

Submitted on: 2/4/2013

Testimony for PSM on Feb 5, 2013 14:45PM in Conference Room 224

Submitted By	Organization	Testifier Position	Present at Hearing
Dr. Peter Quigley	Individual	Support	No



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February 3, 2013

Members of the 27th State Legislature
Hawaii State Capital
415 S. Beretania St.
Honolulu, HI 96813

Aloha Members of the 27th State Legislature

As a member of the Hawai'i Aerospace Advisory Committee, I am writing to express strong support, jointly, for SB 1256 and HB 1419. These bills insure that sustained operations and equipment will be available for the further advancement of the aerospace R and D park initiative, created by Act 169 and issued during the 2012 Legislative Session. Hawai'i, and the Big Island in particular, has a real opportunity to grow an aerospace/aviation industry creating more jobs for the citizens of our state. The fact that DEBDT and RCUH have a project agreement around this initiative is a very positive development; in addition, the project now has an Executive Director. The Space Act Agreement between the state of Hawai'i and NASA also serves as a high profile foundation to launch research projects and other partnerships; and again, this all brings jobs to Hawai'i.

The PICSES project is, therefore, gaining momentum and needs the support of SB 1256 and HB 1419 to assure that forward movement is sustained. The State needs to develop economic sectors in addition to tourism and this area is promising. I urge your committee to voice support of these important funding bills.

All best

A handwritten signature in cursive script that reads 'Peter S. Quigley'.

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