



**RECEIVED**  
**Date & Time**  
Jan 31, 2018, 1:04 pm

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

DAVID Y. IGE  
GOVERNOR

LUIS P. SALAVERIA  
DIRECTOR

MARY ALICE EVANS  
DEPUTY DIRECTOR

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Statement of  
**LUIS P. SALAVERIA**  
**Director**  
Department of Business, Economic Development, and Tourism  
before the  
**HOUSE COMMITTEE ON VETERANS, MILITARY, & INTERNATIONAL AFFAIRS,  
& CULTURE AND THE ARTS**

Friday, February 1, 2018  
10:00 a.m.  
State Capitol, Conference Room 429

in consideration of

**HB 2706**  
**RELATING TO THE INTERNATIONAL MOON BASE ALLIANCE.**

Chair LoPresti, Vice Chair Fukumoto, and Members of the Committee.

The Department of Business, Economic Development, and Tourism (DBEDT) appreciates the intent, but respectfully must **oppose** HB 2706, which creates an “International Moon Base Alliance” committee within DBEDT’s Office of Aerospace Development to plan and organize an international lunar development summit in October 2019.

At present, DBEDT does not have the sufficient staff or resources to support a committee and to plan and organize a summit in 2019. In order to organize a summit of this magnitude, we estimate it would cost \$250,000. We feel that perhaps funding and resources to support this effort may be better if it were organized through a private or non-profit entity.

With limited resources, DBEDT has prioritized supporting growth of businesses that have the potential to create the most jobs as our primary focus.

We respectfully, ask that you hold this measure.

**LATE**

January 31, 2018

Members of the 29th State Legislature  
Hawaii State Capitol  
415 S. Beretania Street  
Honolulu, Hawaii 96813

**RECEIVED**  
**Date & Time**  
Feb 01, 2018, 8:19 am

Re: **HB2706** - Relating to the International Moon Base Alliance

I am pleased to provide testimony in strong support of this measure, which would help establish a Multinational Lunar Architecture Alliance to identify the goals, challenges, and methodologies for promoting the development and implementation of prototype habitats and technologies to support a sustainable return of humans to the Moon.

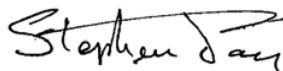
As a former Chairman of both the Japan-U.S. Science, Technology, and Space Applications Program (JUSTSAP) and the Hawaii Aerospace Advisory Committee (HAAC), I have engaged in numerous multinational programs enabling opportunities to leverage Hawaii's Moon-like terrain, resident scientific and technological expertise, and numerous research alliances with space-faring nations throughout the Asia-Pacific region to advance the exploration and utilization of space beyond low-Earth orbit.

The Moon provides a logical near-term destination for future space enterprise that can serve as a testbed for a broad range of technologies, including renewable energy, broadband telecommunications, additive manufacturing (3-D printing), *in-situ* resource utilization – all of which ultimately will be required to extend humanity's reach through our Solar System. Yet these same technologies, once tested and validated in the lunar environment, could be applied to significantly improve qualities of life on our home planet.

National space agencies worldwide, along with major aerospace corporations, research institutions, and leading universities, have all expressed strong interest in supporting humankind's return to the Moon, and Hawaii (in the pioneering spirit of those Polynesian voyagers who first settled the islands) is exceptionally well positioned to both contribute to and benefit from this enterprise.

As such, I would strongly recommend passage of this timely legislation, and would be happy to address any questions from your committees concerning this recommendation.

Sincerely,



Stephen M. D. Day  
Chairman Emeritus

The Japan-U.S. Science, Technology & Space Applications Program (JUSTSAP)  
and  
The Hawaii Aerospace Advisory Committee

**RECEIVED**  
**Date & Time**  
Jan 31, 2018, 9:42 am

Statement of  
**Rodrigo Romo**  
Program Director

Pacific International Space Center for Explorations Systems (PISCES),  
Before the

House Committee on Veterans, Military & International Affairs & Culture and the Arts  
Thursday, February 1<sup>st</sup>, 2018 , 10:00 AM  
State Capitol, Conference Room 429

In consideration of  
**HB2706**

**RELATING TO THE INTERNATIONAL MOONBASE ALLIANCE**

Chair LoPresti, Vice Chair Fukumoto and members of the Committee.

Aloha Kakou:

Current developments in Space Policy have put a strong emphasis on returning humans to the Moon. In order to build a permanent settlement on the lunar surface, testing must be done here on Earth first. This will allow the development of building techniques, materials and habitat designs prior to considering building on the Moon. Hawai'i has high fidelity analog sites which could be used for this purpose.

This is a good opportunity for Hawai'i to take the lead in the development of what could be the next human settlement outside Earth.

PISCES has limited human and financial resources, however, we are willing to assist and collaborate with this project to the best of our capabilities.

Thank you for this opportunity to offer comments.



Rodrigo Romo  
Program Director  
PISCES  
99 Aupuni St. Ste 212-213  
Hilo, HI 96720

**LATE**

**RECEIVED  
Date & Time**

Feb 01, 2018, 8:22 am

**HB-2706**

Submitted on: 1/31/2018 11:07:06 PM

Testimony for VMI on 2/1/2018 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Melodie Aduja	OCC Legislative Priorities	Support	No

Comments:

**PRESENTATION OF THE  
OAHU COUNTY COMMITTEE ON LEGISLATIVE PRIORITIES**

**DEMOCRATIC PARTY OF HAWAII**

TO THE COMMITTEE ON VETERANS, MILITARY &  
INTERNATIONAL AFFAIRS & CULTURE AND THE ARTS

THE HOUSE OF REPRESENTATIVES

TWENTY-NINTH LEGISLATURE

REGULAR SESSION OF 2018

Thursday, February 1, 2018

10:00 a.m.

Hawaii State Capitol, Conference Room 429

**RE: Testimony in Support** of HB 2706 RELATING TO THE INTERNATIONAL MOON BASE ALLIANCE

To the Honorable Matthew S. LoPresti, Chair; the Honorable Beth Fukumoto, Vice-Chair and Members of the Committee on Veterans, Military & International Affairs & Culture and the Arts:

Good morning. My name is Melodie Aduja. I serve as Chair of the Oahu County Committee ("OCC") Legislative Priorities Committee of the Democratic Party of Hawaii. Thank you for the opportunity to provide written testimony on House Bill No. 2706, relating to the Space Industry, Office of Aerospace Development, and an evolvable lunar architecture for the International Moon Base Alliance. The OCC

Legislative Priorities Committee is in favor of House Bill No. 2706 and support its passage.

House Bill No. 2706 is in accord with the Platform of the Democratic Party of Hawai'i ("DPH"), 2016, as the Office of Aerospace Development is to provide recommendations and guidance for the establishment of an evolvable lunar architecture on the Big Island of Hawaii and to plan a development summit.

The DPH "recognizes that the responsible use and development of technology in all its manifestations offer immense potential for our community, government, including institutions of higher education and business sectors. DPH encourages synergistic research, development, commercialization and educational programs that promote technological proficiency and innovation. In particular, DPH supports Science, Technology, Engineering and Math (STEM) initiatives in our public, private and charter schools as these prepare the next generation to address the needs of our state. DPH also supports programs that facilitate incubator, i.e., start-up opportunities for new and promising technologies and encourages the local retention of our intellectual resources." (DPH Platform, Lines 148-156 (2016)).

Given that House Bill No. 2706 establishes the Office of Aerospace Development to provide recommendations and guidance for the establishment of an evolvable lunar architecture on the Big Island of Hawaii and to plan a development summit, it is the position of the OCC Legislative Committee to support this measure as it facilitates start-up opportunities for new and promising technologies and encourages the local retention of our intellectual resources.

Thank you very much for your kind consideration.

Sincerely yours,

/s/ **Melodie Aduja**

Melodie Aduja, Chair, OCC Legislative Priorities Committee

Email: [legislativepriorities@gmail.com](mailto:legislativepriorities@gmail.com), Tel.: (808) 258-8889

**LATE**

**RECEIVED**  
**Date & Time**  
Feb 01, 2018, 9:24 am

January 30, 2018

Dear Members of the 29th Hawaii State Legislature:

On behalf of the Maui Economic Development Board (MEDB), I am pleased to provide testimony in strong support of HB2706 relating to the International MoonBase Alliance.

Formed in 1982 as a 501(c)(3) nonprofit organization, the Maui Economic Development Board, Inc. was structured as a convener of both public and private sectors to achieve a mission of economic diversification. From MEDB's inception, we have viewed the cultivation of the aerospace sector as one of several key strategies for diversifying the State's economy.

MEDB concurs with the intent of HB2706 to enable the establishment and operation of an International MoonBase Alliance, as originally proposed during the International MoonBase Summit on the Island of Hawaii in October, 2017.

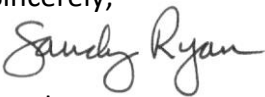
We believe the proposed Alliance, headquartered in Hawaii, will provide multiple opportunities for our State to engage (through both international and public-private partnerships) in the design, development, testing and validation of innovative technologies that will enable humankind to return to the Moon, as well as to establish a sustainable space economy that will substantially expand and diversify both scientific and commercial space enterprise.

Hawaii's volcanic regolith, which closely approximates that found on the lunar surface, provides an ideal environment to test and validate innovative technologies for deployment on the lunar surface. Hawaii's ongoing scientific and technological collaboration with space-faring nations throughout the Asia-Pacific region, as well as research and development partnerships with NASA and other national space agencies and organizations worldwide, will also enable our State to establish multinational coalitions to advance lunar exploration, development, utilization, and (ultimately) sustainable settlement on both the Moon's surface and in cis-lunar space.

The potential scientific, commercial, and educational benefits that would rebound to Hawaii through such enterprise are truly substantial, and as such we wholeheartedly endorse the vision for establishing the International MoonBase Alliance outlined in this legislation.

Thank you for the opportunity to testify on this bill.

Sincerely,



Sandy Ryan

Program Director, Maui Economic Development Board, Inc.  
Maui Representative, Hawaii Aerospace Advisory Committee

**LATE**

**RECEIVED  
Date & Time**

Feb 01, 2018, 8:21 am

**HB-2706**

Submitted on: 1/31/2018 5:52:48 PM

Testimony for VMI on 2/1/2018 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
HENK ROGERS		Support	No

Comments:

Statement of **Henk Rogers**

Henk B. Rogers

Chairman

PISCES

Blue Planet Foundation

Blue Planet Research

Founder

International MoonBase Alliance

International MoonBase Summit

Before the

COMMITTEE ON VETERANS, MILITARY, & INTERNATIONAL AFFAIRS, & CULTURE  
AND THE ARTS

Thursday, February 1st, 2018 @ 10:00

State Capitol, Conference Room 429

In consideration of

**HB 2706**

**RELATING TO THE INTERNATIONAL MOON BASE ALLIANCE.**

Testimony of Henk Rogers for HB 2706:

Humankind will build permanent settlements on the Moon.

Many governments and private companies are building the capability for humans to go to the Moon. The issue is, what will we build on the moon to welcome such human lunar surface missions in the future. The answer is a MoonBase.

A MoonBase must be made out of in situ resources. It's simply too expensive to send all of a permanent settlement from Earth to the Moon in pieces and attach them together like the ISS. We must robotically build a MoonBase out of materials we find on the Moon.

Before we build anything on the Moon or send robots to build something on the Moon, we will have to practice here on Earth. We must practice the sintering of regolith (Moon/Mars dust). We must practice robotics and AI. We must practice pressurized architecture. Where should we do this?

The answer is Hawaii. The volcanoes of Hawaii are mostly made of the same material as the regolith on the Moon and Mars. We have potential MoonBase analog sites within an hour's drive of major ports, airports, hotels, housing and high tech engineering facilities (we build the best telescopes in the world).

We are forming the International MoonBase Alliance. It will be made up of space agencies, space exploration companies, space-related academic institutions. The aim of this organization is to create a public-private partnership that will build MoonBase analog sites on Earth and follow that with MoonBases on the Moon.

There are other reasons for choosing Hawaii. We are in the USA, yet we are close to our Asian Space Faring Partners. Hawaii culture should be the culture of the Moon and all of Space. Hawaii is the right place to build a MoonBase Analog.

The opportunity for Hawaii is to become a center for Space Exploration, like Florida, Texas, Alabama and California. We can use our unique geology as a leverage point to bring this very profitable industry sector to Hawaii.

We have a chance to start something really big in Hawaii. We need the State to support our efforts to get the Space Exploration business in Hawaii.

Aloha,

Henk B. Rogers

Chairman  
PISCES  
Blue Planet Foundation  
Blue Planet Research

Founder



International MoonBase Alliance  
International MoonBase Summit



**LATE**

**RECEIVED  
Date & Time**

Feb 01, 2018, 9:18 am

January 31, 2018

Members of the 29th State Legislature  
Hawaii State Capitol  
415 S. Beretania Street  
Honolulu, Hawaii 96813

Re: **HB2706** - Relating to the International Moon Base Alliance

I am most pleased to provide testimony in strong support of this measure, which would help establish a Multinational Lunar Architecture Alliance to identify the goals, challenges, and methodologies for promoting the development and implementation of prototype habitats and technologies to support a sustainable return of humans to the Moon.

As Chairman of the Aerospace States Association's Space Exploration Committee, I am helping coordinate a national movement to return humankind beyond low-Earth orbit (where humans have not ventured since the Apollo program). The vision is to enable sustainable habits on the Moon's surface (and in cis-lunar orbit), with the goal of establishing a vibrant space economy (based on both the scientific and commercial utilization of lunar resources) that ultimately will enable a sustainable human presence beyond Earth.

The Moon provides a logical near-term destination for future space enterprise that can serve as a testbed for a broad range of technologies, including renewable energy, broadband telecommunications, additive manufacturing (3-D printing), *in-situ* resource utilization – all of which ultimately will be required to extend humanity's reach throughout our Solar System. Yet these same technologies, once tested and validated in the lunar environment, could be applied to significantly improve qualities of life on our home planet.

National space agencies worldwide, along with major aerospace corporations and leading universities, have all expressed strong interest in supporting humankind's return to the Moon; and Hawaii, with its Moon-like terrain, resident scientific and engineering expertise, and extensive multinational ties with research and development programs worldwide, is exceptionally well positioned to contribute to and benefit from such enterprise.

As such, I would strongly recommend passage of this timely legislation, and would be happy to address any questions from your committees concerning this recommendation.

Sincerely,

Jim Crisafulli

Chairman, Space Exploration Committee  
Aerospace States Association



**LATE**

**RECEIVED**  
**Date & Time**  
Feb 01, 2018, 9:20 am

## The Aerospace States Association

107 S. West Street, Suite 510, Alexandria, VA 22314  
Tel: (202) 257-4872 E-mail: ASA@aerostates.org

Alabama  
Alaska  
Arizona  
Arkansas  
California  
Colorado  
Connecticut  
Delaware  
Florida  
Georgia  
Guam  
Hawaii  
Idaho  
Illinois  
Indiana  
Iowa  
Kansas  
Kentucky  
Louisiana  
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New Hampshire  
New Jersey  
New Mexico  
New York  
North Carolina  
North Dakota  
Ohio  
Oklahoma  
Oregon  
Pennsylvania  
Puerto Rico  
Rhode Island  
South Carolina  
South Dakota  
Tennessee  
Texas  
Utah  
Vermont  
Virginia  
Washington  
West Virginia  
Wisconsin  
Wyoming

### Members of the Hawaii State Legislature House Bill 2706 RELATING TO THE MULTINATIONAL LUNAR ARCHITECTURE ALLIANCE.

On behalf of the Aerospace States Association and state Lieutenant Governors I am pleased to provide this testimony for your consideration.

The Aerospace States Association is a nonpartisan organization of Lieutenant Governors and other top-ranking leaders from every state that represents states' interests in federal aerospace and aviation policy development. Our overall goal is to help promote and synergize state assets and capabilities in ways that can strengthen and diversify U.S. leadership in this industry.

ASA's Space Committee has proposed a series of recommendations to advance our national space program. To achieve these goals, we believe our nation needs to embrace a collaborative, multinational vision for space exploration – one that incorporates the extensive knowledge, resources and capabilities developed through our nation's historic space missions, along with the substantial experience and achievements of other space-faring nations.

We also must leverage the substantial assets, expertise and entrepreneurial spirit of our private sector in pioneering the space frontier – not only to maximize the potential benefits from research and exploration, but also to facilitate development and utilization of extraterrestrial resources that can benefit people on Earth, as well as support long-term voyages to and settlements on other planets.

The bill before you today is consistent with our goals and objectives.

Sincerely,

Charles H. Huettner, Executive Director

**RECEIVED**  
**Date & Time**

Feb 01, 2018, 9:21 am

**LATE**

*Joseph E. Ciotti, Ph.D.*  
*3577-4 Pinao Street*  
*Honolulu, HI 96822*

TESTIMONY IN SUPPORT OF:

HB2706 – RELATING TO THE INTERNATIONAL MOONBASE ALLIANCE

Dear Members of the 29<sup>th</sup> Hawai'i State Legislature:

I am writing to express my strong support for the passage of HB2706, which relates to the establishment of an international moon base alliance.

Ever since the Apollo program era of the 1960s, Hawaii has played a major role in the exploration of our Moon. The island-state's lunar-like terrain has afforded researchers and lunar astronauts a feasible proxy for serving as a geological laboratory and training ground for human and robotic exploration of the Moon.

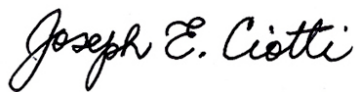
Decades of partnerships between the State government and spacefaring private-public institutions across the Asia-Pacific region have provided a wealth of knowledge, expertise and innovative undertakings in planetary research and entrepreneurial ventures. With this rich experience in lunar research and discovery, Hawaii stands strategically positioned to play a leadership role in the development of a prototype lunar outpost.

Besides the scientific advancement and economic impact that would result from actively engaging in the establishment of an international moon base, this committed involvement would provide high tech/STEM based career opportunities for students. As the Director of the Center for Aerospace Education at Windward Community College and the Project Manager for the University of Hawai'i Community College's Project Imua, I have been intimately involved in the educational needs and preparations of our youth in STEM and particularly aerospace careers.

Our UHCC students are currently engaged in the development of small space payloads and have already launched three payloads into space. The opportunities generated from a moon base project would enhance the educational and career skills of our pre-engineering students. The prospects of establishing an international alliance for lunar exploration would be a major boost to encouraging other students to pursuing high tech jobs locally and significantly boost our State's economy.

I would greatly appreciate your affirmative consideration of and action on this bill.

Mahalo nui loa,



Dr. Joseph E. Ciotti  
Physics Department / Windward Community College

**LATE**

**RECEIVED  
Date & Time**

Feb 01, 2018, 9:24 am

January 31, 2018

To: Members of the 29<sup>th</sup> Hawaii State Legislature

Re: Testimony in support of HB2706 Relating to the International MoonBase Alliance

Recently, President Trump signed a new space policy directive that included the statement that the United States should return to the moon, and additionally that this return to the moon should not be NASA-alone, but rather with the inclusion of both international and public-private partnership sectors.

A recent MoonBase conference in Hawaii in October 2017 began to lay the ground work for the creation on an International MoonBase Alliance.

For over 60-years, Hawaii has been recognized as a high-quality analogue for testing lunar and mars operations. Apollo astronauts trained in Hawaii for their lunar missions in the late 1960s-early 1970s.

An alliance for a lunar MoonBase would include international, private and government participation. Hawaii could and should serve as a logical testing ground for the development of such a MoonBase.

This letter stands in strong support of the creation of such an alliance as outlined in HB2706.

Robert M. Kelso  
Founder/CEO, Kelso Aerospace  
Former Executive Director, PISCES

**RECEIVED**  
**Date & Time**  
Feb 01, 2018, 10:16 am

**LATE**

**HB-2706**

Submitted on: 2/1/2018 10:07:27 AM  
Testimony for VMI on 2/1/2018 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
Jojo Tanimoto	Aha Moku South Kohala Council	Oppose	No

Comments:

Oppose HB 2706. This my personal view, not on behalf of the Aha Moku at this time.

I am opposed because the benefits to whomever uses the benefits of a moon base; so far

have not included any benefits to the communities on the Big Island. The material for housing, clothing, food, etc., etc., do not benefit the residents here. These people pay how much for camping out? Even reservations for the camp sites are COLLECTED before use. I don't

understand the benefits to the residents and the community. Never have; and this should be disclosed in this bill.

Mahalo

J Tanimoto

**RECEIVED**  
**Date & Time**  
Jan 30, 2018, 10:50 am

**HB-2706**

Submitted on: 1/30/2018 10:09:03 AM

Testimony for VMI on 2/1/2018 10:00:00 AM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Present at Hearing</b>
cheryl		Oppose	No

Comments:

Having read through the bill, it seems once again, the legislature and others see the "pie in the sky" hooking to space endeavors without truly looking at the impact on our lands and people. This seems to be moving right along (and I know there is already a moon base kind of thing on Hawai'i Island, how did that get there?) "Its purpose will be to provide recommendations and guidance for the development of a prototype moon base on the island of Hawaii, promote and facilitate multinational research and commercial activity, and to organize an international lunar development summit in Hawaii during the fall of 2019. " I did not read anywhere about what is being done to make sure that the land is not misused nor are the people. Does an EIS need to be done? Has the burial committee been scheduled? Why is it that the "business and astronomy" people have so much say on what happens to the islands? Oh, yes, the perception that they bring money and grandeur and status to Hawai'i. You know how you try to butter up your aunty or your parents when you want something from them? That's exactly what happens here over and over again. Some people get enamored with the status and the accolades missing totally the destruction of the land and people that is happening under their noses. Is this a need or a want? That is how every thing you do should be determined don't you think?