

# PISCES NEWSLETTER

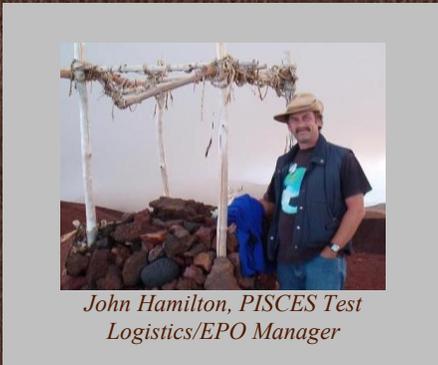
Pacific International Space Center for Exploration Systems \* Hilo, Hawai'i

SEPTEMBER, 2013

VOL 1 ISSUE 3



Pacific International  
Space Center for  
Exploration Systems



John Hamilton, PISCES Test  
Logistics/EPO Manager

John Hamilton has been with PISCES since its inception in 2007. His work with the Center has garnered multiple awards, including the Japan-U.S. Science, Technology and Space Applications Program (JUSTSAP) Outstanding Service award in 2008, plus three NASA Group Achievement Awards for In-Situ Resource Utilization Analog Demo Team (2008), ISRU RESOLVE Team (2008) and ISLO-ISRU Field Test Team (2010).

An astrophysicist by degree, Hamilton has 26 years of experience as an observational astronomer on Maui and Hawaii, which constantly had him engaged in Education and Public Outreach (EPO) activities.

His first EPO experience was in 1972, when he competed in the NASA Skylab Student Project contest and was selected as one of the 25 national finalists.

That was the start of his life-long commitment to service and mentor students.

In 2003, Hamilton became an instructor for the Physics & Astronomy Department at the University of Hawaii at Hilo, where he still teaches today. He's also a member of the Mauna Kea Observatory Outreach Committee.

He holds a B.A. in Astronomy and B.S. in Physics from University of Texas at Austin and a M.S. in Astronomy from University of Hawaii at Manoa.

## MESSAGE FROM THE EXECUTIVE DIRECTOR

Dear PISCES friends and family,

Home, sweet home...there's no place like it. After being on the mainland for most of the summer, it is wonderful to return to Hawaii and Hilo. While I enjoyed the time in strategic preparation and planning meetings across the U.S., I must say that I enjoy getting back to Hawaii even more.

This summer has been extraordinary. Much time was spent carrying the PISCES and Hawaii aerospace message to four NASA centers, various research institutes, state governments, and universities.

How blessed we are in Hawaii! I found several State governments amazed and envious that the Hawaii legislature would have the vision to provide state funding for aerospace R&D in planetary surface technologies that also benefit life in Hawaii. This type of funding and support doesn't exist in other states. Truly, Hawaii's Governor and Legislature are visionary leaders in this area.

In these strategic meetings, I explained the three important tenets that PISCES has now woven into all of its projects: (1) the need to grow 21<sup>st</sup> century skills in Hawaii for 21<sup>st</sup> century jobs (2) economic development and (3) workforce development. Hence, PISCES work is not just about developing planetary surface system (*cont. on page 3*)



Pacific International Space Center for Exploration Systems (PISCES)

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# 2013 HAWAII AEROSPACE SUMMIT

SEPTEMBER, 2013

VOL # 1 ISSUE #3

## PISCES CO-SPONSORING SUMMIT AT STATE CAPITOL

On Tuesday, October 8<sup>th</sup>, PISCES will join State leaders at the Capitol in Honolulu for a conference designed to address Hawaii's aerospace industry.

"This is a great opportunity for the public to get engaged, informed and involved in the future of Hawaii's aerospace industry," said Lieutenant Governor Shan Tsutsui, who serves as Vice Chair of the Aerospace States Association. "The aerospace industry has the potential to provide our state with high-paying jobs and play a role in STEM education programs."

Five main topics will be discussed at the summit: **(1)** Space Transportation **(2)** Unmanned Aerial Systems/Next-Generation Aviation **(3)** Advanced Communications, Energy, and Manufacturing **(4)** Aerospace Education and Training **(5)** International Initiatives for Space Exploration.

"During this event, state lawmakers will meet with local aerospace companies, academia, and the military to discuss aviation and space research programs in Hawaii," said Rob Kelso, PISCES Executive Director. "We also hope to map out a vision of the State's aerospace industry that will help diversify the State's economic portfolio."

There will be a broad range of panelists and guest speakers from the public and private sector, including:

- **Elliot Pulham**, Space Foundation CEO/Hawaii Aerospace Advisory Committee Chair
- **Badri Younes**, NASA Deputy Associate Administrator for Space Communications and Navigation
- **Bruce Blankenfeld**, Lead Navigator and Vice-Chair of the Polynesian Voyaging Society's Board of Directors
- **Kim Binsted**, Co-Investigator – HI-SEAS Project, University of Hawaii.
- **Dr. Buzz Aldrin**, Astronaut – Apollo 11

The Aerospace Summit is free and open to the public, but advanced registration is required. For additional information and to register for this event, log on to <http://aerospacehawaii.info/2013-hawaii-aerospace-summit>.

PISCES is sponsoring the Summit along with the Office of the Lt. Governor, the Senate Committee on Public Safety, Intergovernmental and Military Affairs, the House Committee on Economic Development and Business, and the Hawaii Office of Aerospace Development.



**TO REGISTER, CLICK [HERE](#)**

### PISCES STAFF

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# PISCES SENDS STUDENT TO WITNESS NASA LAUNCH

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## **FUN** SPACE FACT

**Did you know that the first Hawaiian moon phase is called Hilo? It's also the name of an ancient Polynesian navigator. And it just so happens that PISCES, which is working on navigating to the Moon (and beyond) is located in the town of Hilo!**



Hilo Moon Phase ~ Image Credit: Imiloa

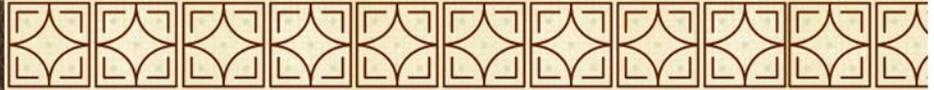
### (EXECUTIVE DIRECTOR'S MESSAGE cont.)

technologies for exploration, but also how these technologies and the applied science can directly influence and benefit the State of Hawaii!

Now we move into the fall, which is like the beginning of the New Year at PISCES. Many exciting events and programs will be underway in the coming months. PISCES will be releasing a new website, and working with two NASA centers plus UH Manoa as we begin research work in basalt construction using various binders.

As co-sponsors, we look forward to the upcoming Hawaii State Aerospace Summit in Honolulu on October 8.

Again, the PISCES staff and I thank you for your encouragement and support. You are dear to us, and we count it as a blessing to serve you. The best is yet to be!



### UNIVERSITY OF HAWAII AT HILO SOPHOMORE SEES HER HARD WORK LIFT OFF

One of PISCES's summer Akamai Workforce Initiative interns, UHH student Krystal Schlechter, literally had a blast concluding her work with PISCES.

Thanks to generous donations through PISCES fundraising efforts, Schlechter and her mentor, John Hamilton, PISCES Test Logistics/EPO Manager, were able to fly to Virginia to see NASA's Lunar Atmosphere and Dust Environment Explorer (LADEE) Mission blast off at the Wallops Flight Facility on Friday, September 6.

The mission involved launching a nearly 850 pound robotic spacecraft, which will orbit the Moon for 100 days, gathering data about its fragile atmosphere, as well as its lunar dust environment.

Some of the dust in the Moon's atmosphere may likely be caused by meteors that hit the Moon and propel lunar debris; and that's where Schlechter's work comes in.

During her internship, Schlechter and Hamilton measured the impact and frequency of these meteor strikes on the far side of the Moon. They used two 11" Celestron telescopes equipped with high speed video cameras to collect the data for LADEE, which NASA will use to learn more about the Moon's lunar dust environment and help quantify the possible dangers inherent with living on the Moon.

Schlechter and Hamilton not only saw LADEE lift-off, they also participated in NASA's official launch efforts and joined the Public Outreach activities at the Wallops Island Visitor Center.

"So THIS is rocket science!" said Hamilton.

"It was such an amazing trip, it's hard to put in words. I met so many fascinating, knowledgeable people and had so many wonderful experiences. I would have never thought something like this would happen to me. A very special mahalo nui loa to everyone who helped make this possible, especially my mentor John Hamilton." said Schlechter.

PISCES would like to extend our congratulations to the duo for a job well done. Mahalo for all your hard work!



(L-R) Krystal and the life size LADEE model, John with Brian Day, EPO Lead for LADEE, & pre-launch of the Minotaur V rocket carrying LADEE

# MOU SPOTLIGHT



## *Memoranda of Understanding signal growing global interest in Hawaii's aerospace industry.*

In our inaugural newsletter, PISCES announced that it had signed six MOU's. Since then, that number has increased to nine, with more on the way. We will feature one MOU per newsletter here.

- WHO: CRAFT, Center for Rapid Automated Fabrication Technologies*
- WHAT: Robotic Construction Systems*
- WHERE: University of Southern California (USC)*
- DATE of MOU: March 12, 2013*
- GOAL: To construct large-scale structures such as extraterrestrial habitats using in-situ materials on other planets*
- PROJECT(s) WITH PISCES: Contour Crafting technologies*

**PISCES IN THE NEWS!**  
 PISCES was featured as the SPOTLIGHT in Space News, a major publication with international reach. Click [HERE](#) to read the article (page 16). PISCES Board Vice-Chair Henk Rogers and Senator Will Espero are quoted in the article. Mahalo for the coverage!

**MOU: a formal, written agreement that defines the roles and responsibilities of each party with respect to the program/project they are working on together.**

**WHY IMPORTANT: MOU's allow PISCES to form partnerships with both public and private sectors, thereby providing access to expertise and technical support from space agencies around the world. Such access is vital to the success of PISCES projects, and the expansion of Hawaii's economy and aerospace industry.**



### ABOUT US

PISCES is a Hawaii State Government Aerospace Agency located in beautiful Hilo, Hawaii. The research and education/training center is part of the State Department of Business, Economic Development, and Tourism (DBEDT), and conducts environmentally safe field demonstrations to test and validate innovative space technologies on Hawaii's volcanic terrain under the jurisdiction of the Hawaii State Department of Land and Natural Resources (DLNR).

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