

PISCES Board of Directors Meeting Minutes

19 September 2017

10:00 a.m. Hawaii Standard Time

I. Call to Order/Roll Call:

A quorum being present, the meeting was called to order by PISCES Board Chairperson, Henk Rogers at 10:08 a.m., HST.

Other members in attendance included:

Kim Binsted
Luke Flynn
Galen Ho
Patrick Sullivan

Also in attendance:

Office of Aerospace Development: Jeff Pang
Deputy Attorney General Gregg Kinkley (joined meeting at 10:30 am)
PISCES staff: Rodrigo Romo, Polly Roth

II. Approval of Board meeting minutes:

Board Meeting – May 17, 2017: Draft minutes were circulated prior to the meeting. Mr. Ho made a motion to accept the May 17, 2017 minutes as submitted. Mr. Sullivan seconded the motion, and the Board voted unanimously to accept the minutes.

III. Board review and approval of PISCES MOUs with Shark Wheel and with Bolton Inc.:

Two (2) MOUs were presented to the Board for their consideration and approval.

- Shark Wheel MOU: The MOU agrees to establish cooperative relations to investigate methods to develop wheel technologies for planetary exploration rovers as well as commercial market entry and government applications.
- Bolton Inc. MOU: The MOU agrees to establish cooperative relations to investigate methods to develop and apply basalt derived feedstock and basalt fiber technologies and products for commercial market entry and government applications in State applications to promote a sustainable construction industry.

Mr. Rogers made a motion to approve the Shark Wheel and Bolton Inc. MOUs. Mr. Ho seconded the motion and the Board voted unanimously to approve these MOUs.

IV. Informational update on PISCES operations:

Mr. Romo provided an informational update on PISCES activities including:

- Summer activities: The STARS and summer internship programs were very successful this year. STARS involved 11 high-school girls in a six-day program helping them to explore various STEM vocations related to aerospace. Ten of the eleven students declared that they were more likely to pursue studies in a STEM field because of STARS. The internship program, supported by the Hawaii Department of Labor and Industrial Relations, had five interns, three in Robotics and two in Materials Science. Two of the robotics interns are now participating in a Hawaii Community College credit-based

internship program in the Fall Semester and the third is doing an internship at Arizona State University with Jim Bell, a planetary scientist heavily involved in many NASA robotic space exploration missions. One Materials Science intern has been hired full-time to work on the Planetary Lego project at PISCES, and the other intern (a 2016 STARS participant) is enrolled in the University of Colorado aerospace engineering program.

- **Current Grants:** Active grant work includes the Planetary Lego grant in partnership with Honeybee Robotics, UH-Manoa and USC (funded by NASA), and the Little Fire Ant UAV Control grant in partnership with the UH Ant Lab (funded by the County of Hawaii Department of Research and Development). Two proposals have been submitted to NASA; one for Technology Development for the Extraction and Capture of Water from Martian Soils (in partnership with UH-Manoa and UH-Hilo) and the other for Robotic Horizontal Construction with On-Board Self Control (in partnership with Swampworks, Honeybee Robotics and Ontario Drive & Gear). Proposal preparation is in progress for a NASA PSTAR grant in partnership with Astrobotic, Carnegie Mellon U, NASA Kennedy Space Center and Honeybee Robotics.
- **Economic Development Projects/Initiatives:** Active projects include the Basalt Fiber Feasibility Study, East Hawai'i Small Satellite Launch Facility, Multi-Purpose Processing Facility, and other projects in early days. Romo reported on the visit with a delegation of dignitaries from the government of Luxembourg who are interested in investing in aerospace. The Ministry of the Economy of the Grand Duchy of Luxembourg will be hosting a conference, "NewSpace Europe – Frontiers of Opportunity", on November 16 -17, 2017, in Luxembourg City, and Board members urged Mr. Romo to attend.
- **Staffing, Budget & Expenditures:** A recent addition of a full-time technician funded by the STTR Planetary Lego grant brings staff levels to 4.1 FTE (3 full-time, 2 part-time). Current expenditures are on track with the cash flow plan.
- Mr. Rogers reported on the upcoming International MoonBase Summit (October 1-5, 2017) on Hawaii Island and the expected PISCES participation in this event. Mr. Romo will attend the "48 Hours on Mars" event held at the HI-SEAS habitat on September 29th and October 1st, and he will participate in all four days of the conference.

V. Review of planned 2018 Legislative session actions relating to PISCES:

Mr. Romo gave a brief update on bills related to, or which may involve, PISCES and that will be introduced to the 30th Hawaii State Legislature.

- **Housekeeping Bill** that will update HRS 201-76 through 201-80.2: This bill will seek to move PISCES from under the Office of Aerospace Development within DBEDT and attach it administratively directly to DBEDT. It will also seek to remove the PISCES Executive Director from the PISCES Board of Directors.
- **Special Fund ceiling:** This bill will seek to add a \$1M ceiling to the PISCES Special Fund
- **Supplemental funds request for FY19:** DBEDT will seek \$100K in supplemental funds for PISCES for FY19.

VI. Schedule next Board meeting and Adjourn:

PISCES staff will circulate a poll to find a time for the next meeting likely to be held in January 2018. The meeting was adjourned at 11:31 a.m., HST.