

# THE PIPELINE

## FIRST HATCH COHORT GRADUATES

The 2019 HATCH cohort which started at HOST Park in August 2019, and continued on to Norway and Singapore, completed the program with a final demo day to 150 guests at Singapore's famous art venue, The Substation Theatre, this month. This final demo day was the product of an intense three months of work with thirteen startups across the fields of aquaculture technology, ranging from alternative feeds over metabolic analysis and satellite-based data sourcing and modeling to algae-based methane-reducing feed additive for cattle. The final demo day was livestreamed from Singapore on December 4th. For those of you who missed the 3 hour event, it is available online at : <https://www.youtube.com/watch?v=Wztor8fLmto>

The cohort companies received support in the form of \$100,000 cash and in-kind in addition to on-site farm visits as well as deep industry access to relevant players. Over the course of the program, HATCH invited more than 50 mentors on-site, including thought leaders and industry veterans as well as successful serial entrepreneurs like Bryan J. Wynn, Einar Wathne, Richard Le Boucher and Rudolf Lamprecht. Industry partners include Cargill, Biomin, Norwegian seafood bank DNB. Companies such as Hawaii's Kuehnle Agrosystems, were set on an upwards trajectory by launching an algae-based skincare line as well as natural colorant products for salmon during the program.

HATCH has already raised +€6M of its €8M fund goal that is largely dedicated to follow on investments across their own portfolio. While the team is now heading into a few quiet weeks, HATCH is already gearing up for their next program in the second half of 2020 that will most likely see a similar size and structure but a larger investment per company. The official application period is scheduled to open in February.



The full 2019 HATCH cohort and HATCH staff at HOST Park  
Photo Curtesy of Moritz Mueller (HATCH)



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## WORLD AQUACULTURE Society



### AQUACULTURE AMERICA 2020 CONFERENCE

Abstracts for Aquaculture America 2020 were due August 31, 2019. We hope you got yours in on time!

If you did not, there might still be a way to squeeze you in. Let us know!

Information on the conference is available online at:  
<https://www.was.org/Meeting/code/AA2020>

Friends of NELHA will be reaching out to you if you are an aquaculture company to participate in a tour for aquaculture experts. Tour participants will be required to register and pay for the tour in advance. This is an opportunity to showcase your projects and reach out to a national audience.

*“Do not tell fish stories where the people know you; but particularly, don’t tell them where they know the fish.” Mark Twain*

#### HAPPY HOLIDAYS!

Best wishes from the entire NELHA staff for a wonderful holiday season and a new year filled with health, happiness and success!



### SEA-BIRD SCIENTIFIC ESTABLISHES PROJECT IN RESEARCH CAMPUS

We would like to welcome Sea-Bird Scientific to the HOST Park community! Sea-Bird Scientific is the world's largest developer and manufacturer of electronic products for the measurement of salinity, temperature, pressure, dissolved oxygen, fluorescence, nutrients and related parameters for oceanographic research and environmental water quality monitoring. These tools are used around the world by ocean researchers, resource managers, and key industries engaged in offshore exploration and ocean resource utilization. The HOST Park-based project will conduct validation and long-term stability evaluations on current and prototype oceanographic sensors using surface and deep seawater at HOST Park.





*Octopus from Kanaloa Octopus Farm at HOST Park Research Campus  
Photo Courtesy of Jake Conroy*

## NEW PARK CLIENTS

Many of you have asked to hear about the newest projects in the park. We are excited to announce that a variety of new clients have joined the HOST Park ohana. In the research campus, Kohana Kai Aquafarms has set up a sea urchin, sea cucumber and coral project. This project is complementary to the existing Legacy Reef Foundation coral project (see page 6 of this newsletter). Another octopus project led by Silver Spiral Seas has established itself recently and will conduct research on cephalopods and provide a high end photography laboratory for capturing these animals which are otherwise extremely elusive in their natural habitat. Pacific Hybreed is implementing a containerized oyster hatchery facility, also in the campus, with the intent to establish a crossbreeding program for Pacific Oysters.

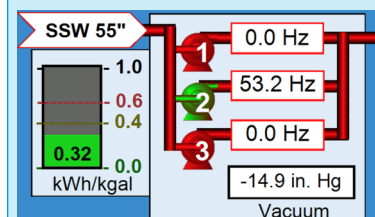
Other aquaculture projects in the campus include HATCH cohort companies: Symbrosia is developing seaweed products to assist with methane reduction in cattle and Minnowtech is focusing on non-invasive biomass estimation and shrimp counting technology. Other instrumentation companies are also finding the HOST Park resources attractive. Sea Bird Scientific, familiar to oceanographers around the world, is further described on page 2 of this newsletter. SeaTrec which works on developing thermal engine technologies using ocean temperature differences to power instrumentation has also started a project.

NELHA has also entered into a long term sublease for a convenience store showcasing HOST Park products and fueling station including EV at the kohala entrance of the Park (Kaiminani Street light). We hope park users will soon have a convenient stop for coffee and lunch supplies by the end of 2021. The project is related to the well known Matsuyama stores up mauka and towards Kona.

If you are interested in reaching out to other park clients, give us a call or send us an email and we will be pleased to facilitate the connection.

## FROM THE DEEP

Over the past 6 years, NELHA has systematically modernized the pumping and seawater distribution data acquisition system. These efforts have yielded the capabilities to retrieve over 1450 operational and environmental parameters in real-time. Including a multitude of performance conditions logged from 20 variable frequency drives, pressure control loop monitoring from 20 sensors on the seawater distribution pipeline system, data acquisition from 28 seawater distribution and client flow meters, and continual observation and evaluation of 21 energy meters. All this information culminates into a massive database in NELHA's SCADA system and a robust alarm system notifying NELHA staff when any of the 1450 conditions monitored drift outside of its normal operational ranges.



Recently, NELHA has been tracking kW/kgal, which serves as a proxy to a pump system "fuel economy" measurement. By tracking kW/kgal in real time, NELHA's Operations Department can better plan and operate the multiple pumps needed to meet its client seawater demand, as efficiently as possible. This becomes challenging when operating up to 20 pumps from 5 pump stations. NELHA's goal is to have all its pumping systems below 0.4 kW/kgal. The NELHA Operations Department is proud of their recent efficiency and consistent 99.9% uptime achievements.

## BIOSECURITY

### AVOIDING COMPLACENCY

New Years is always a good time to re-evaluate the important things in life. It may also be a good time to re-evaluate your farms biosecurity procedures too! It's been three years since many of HOST Park's clients had an opportunity to complete a biosecurity self-inspection questionnaire. It is easy to become complacent in your standard procedures, but one mishap can be devastating to recover from. In the coming days, be on the look-out for Santa and NELHA's Biosecurity Officer, with seasonal gifts and NELHA's biosecurity self-inspection questionnaire!



*Neil Sims from Kampachi Farms delivers an inspiring keynote at HATCH pitch event at Hale Iako October 2019  
Photo Courtesy of Moritz Mueller*

## LOOKING FOR A CLUTTER FREE HOLIDAY GIFT?

Clutter free gifts are all the rage this year. You might consider offering experiences, classes, services to save time saving, memberships and consumables instead of "things".

There are a variety of experiences to be had at HOST Park ranging from Friends of NELHA's popular "Seas the Day" tour (<http://friendsofnelha.org/tours/>) to sea horse tours at Ocean Rider (<https://seahorse.com/>) and octopus tours at Kanaloa Octopus Farm (<https://www.kanaloaocopus.com/>).

Alternatively, there are some amazing sea food products you can purchase from HOST Park that can make delicious gifts. These include Big Island Abalone, Kona Cold Lobster, Kona Kanpachi, oysters, octopus and more.



*Abalone from Big Island Abalone*

## WHAT WOULD WE DO WITHOUT THEM?



*Chad Debina and Cilly Gibo preparing space for a new client in the research campus late November 2019*

Our Operations team is always hard at work making sure the seawater distribution system is running smoothly. This critical team consists of Dean Towle, Allon Thompson, Tom Pierce, Tony Mitchell, Cilly Gibo and Chad Debina. If you appreciate their hard work like the rest of the NELHA staff do, make sure you let them know when you run into them!

## NELHA WEBSITE'S MOST POPULAR IMAGE

Our website images have been viewed over 400,000 times... Here is the most popular image. It was taken in 2015 and posted on our website a year later!



 272,919

## WHSBDC CONTINUES TO ASSIST CLIENTS

A resource open to all NELHA tenants, and to all Hawaii residents for that matter, is the West Hawaii Small Business Development Center, located on the first floor of Hale Iako, at 73-970 Makako Bay Dr, on our campus. The SBDC works with entrepreneurs and businesses of all types in helping them to develop business plans, create cash flow projections, secure financing, assist in acquisitions or business sales, perform market research or assist in any number of other strategic tasks a small business would need. Our local SBDC is part of a statewide network that is part of a national network of almost 1000 Small Business Development Centers.

In 2019, Hawaii SBDC clients were responsible for over \$32 million in local capital infusion, almost 100 business starts, close to 300 new jobs, and over \$22 million in sales increases. Except for a small fee for the approximately two dozen continuing business education classes the West Hawaii Center offers annually, SBDC services are offered at no charge and its only agenda is to help your small business thrive. You can register for services at [hisbdc.org](http://hisbdc.org) or give Dennis Boyd or Marty Kennedy a call at 333-5000. See what they can do to help you to help yourself.



*“A dark  
Illimitable ocean without bound,  
Without dimension, where length, breadth, and height  
And time and place are lost” John Milton excerpt from “Paradise Lost” 1667*

## NELHA ASSISTS MONTEREY BAY AQUARIUM IN DEEP OCEAN CRITTER PROJECT



In August 2019 NELHA hosted a Monterey Bay Aquarium team as they visited Hawaii to further their efforts in culturing gelatinous deep-sea zooplankton. The aquarium team performed nightly blackwater SCUBA dives several miles off of the Kona coast, in water stretching nearly a mile deep below them. Armed with bright lights, cameras, and soft jars they collected jellies, ctenophores, siphonophores, and other small, nearly transparent animals that mi-

grate from the deep ocean to the surface every night. After collection (in accordance with DAR special activity permit 2020-34) the animals were held at the NELHA well site in special “kreisel” tanks that safely coddle these delicate animals. The aquarium team had several important breakthroughs during the trip including spawning of several species never witnessed before. NELHA plans to continue providing assistance for two more years.



*Photos courtesy of Matt Wandell,  
Monterey Bay Aquarium*

## NATURAL ENERGY LABORATORY OF HAWAII AUTHORITY

NELHA administers the world's premier energy and ocean technology park. This unique master-permitted park is located on 870 acres of prime coastal property in Kailua-Kona Hawaii and offers research support facilities for the development of renewable energy and other demonstration projects that utilize the unique resources found at the park. It is the world's only facility that continually brings ashore high quality, pristine supplies of both warm surface and cold deep seawater 24 hours a day which allows for various tests to take place with intent to reap economic potentials from the dual temperature seawater delivery system and high solar insolation. Tenants located in HOST Park work at the pre-commercial, commercial, research and educational levels. It is the largest diversified economic development project in the State and is solely focused on developing green economic projects.

## THE TEAHOUSE GETS A FISHY FACELIFT

Legacy Reef Foundation (LRF)'s mission is to develop coral nursery technology to assist in the world's coral reef restoration. To accomplish this, LRF relies on a team of talented volunteers ranging from nearby WHEA charter school students to retired marine biologists who work on a daily basis to clean, monitor and feed corals at their HOST Park facility. One of the volunteers, Siena Baldi from Nimble Whimsy, has painted a beautiful underwater coral scene on one of the spaces occupied by LRF, a building affectionately known as the "teahouse" in the research campus. If you are interested in finding more about LRF, check their website (<https://legacyreeffoundation.org/>) or contact Sandra, Director of Operations, at [sandrardr@legacyreeffoundation.org](mailto:sandrardr@legacyreeffoundation.org) or 808-664-5737. LRF offers tours through Friends of NELHA. They are also working on offering educational dive trips in West Hawaii in 2020 and building out a small aquarium in the research campus.



Tour photo courtesy of LRF



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PLEASE  
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