Scientists Wanted

Amber Rock, a junior biology major at Bowdoin College in Maine, researches the development of hox genes in sea anemones Friday at Whitney Laboratory for Marine Bioscience at Marineland. Fox genes control the body plans of developing embryos in humans and animals. Rock, who intends to pursue graduate study in developmental biology, is undertaking her second summer research internship experience at the lab.

Whitney Lab seeks long-term visits, more collaboration with research village

By Jake Martin

The University of Florida’s Whitney Laboratory for Marine Bioscience has plans to build an interdisciplinary research village to house visiting scientists, from graduate students to researchers of international renown. Director Mark Martindale is looking for more mixing of the minds and what he calls the “chance collisions” that can lead to some of the most exciting ideas and discoveries science has to offer. He and other administrators say the greater the ability to offer long-term stays on site, the more potential to reel in larger grants, meaning larger programs and projects.

Ultimately, the goal is to create pathways to new frontiers in marine biology, preferably through unforced collaboration.

It’s not exactly a hard sell. Martindale says Whitney Lab is unique in its proximity to a diverse collection of coastal habitats, accessible year-round, at a time where more scientists are leaving the confinement of the lab and heading back into nature. He said the field station allows researchers to study marine life in the context of its natural surroundings, with all the bells and whistles of modern technology nearly at arm’s length.

“This is, like, the most important place you can be,” Martindale said.

He also said there are things that sharing the same working space and the passing of time can do that forcing scientists in a room and telling them to bounce ideas off one another can’t.

“Fun things start to happen,” he said.

Jessica Long, director of development and external relations, said an original plan for 11 eco-friendly, coastal-style cottages was scaled down to six such cabins, at least for now. She said this

Kaley Dean, a marine biology major at San Francisco State, tests oxygen levels while studying the ability of clams to filter water in low-oxygen conditions. An undergraduate research intern, Dean intends to pursue a career in wetland conservation and restoration.

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was due mostly to delays
in the project as a result
of Hurricane Matthew
and some subsequent high
bids, not to mention a lack
of open space with which
to work.

Long said Whitney
Lab has been trying to
expand housing for at
least 10 years but that the
idea for the research vil-
lage really took shape
in 2012, at the direction of
Martindale and the lab’s
volunteer trustee board.
By 2013, the Florida Leg-
islature pitched in more
than $700,000, although
$2 million was needed
(before the bids came in
around $3 million). Fund-
raising efforts, which are
ongoing, ensued.

Each cottage, to be built
with materials sensitive
to the site’s proximity to
coastal waters and con-
ditions, will include four
bedrooms and two bath-
rooms. There will also be
collaboration spaces, an
outdoor classroom and
dune restoration land-
scape.

Long said they’re hop-
ing to break ground in late
summer or fall, at least on
the initial six cabins. She
said there’s still one cot-
tage to be named, via a
donation, as well as some
fundraising to do for an-
other cottage.

While Whitney Lab
does have a 20-bed dormi-
tory and two temporary
trailers it has been able to
use for additional hous-
ing, Long said those units
aren’t exactly conducive
to attracting the intensive,
long-term projects they’re
trying to attract. She said
affordable, non-vacation
rentals are hard to come
by in the Marineland area
and it makes a big differ-
ce to not have to com-
mute to the type of work
being done on site.

“Living around here is
very difficult,” she said,
adding they’ve had to
turn students, even entire
courses, away at times.

Martindale said he
wants to expand on the
footprint they have and to
squeeze the most mean-
fully use he can out of
the facilities and re-
sources at their disposal.

He said the next genera-
tion of scientists will be
more free to explore and
discover new areas than
ever before — and with
the expensive and con-
venient help of the latest
instruments for obser-
vation. For instance, high-
powered microscopes
with the ability to gener-
ate blow-up, 3-D models
of microorganisms for
further study, are avail-
able to researchers on site
nearly 24/7.

Much of the data and
findings from research
already being conducted
at Whitney Lab has made
its way into science jour-
nals and publications all
over the world. There are
discoveries to be found in
any given seine net, tank
or microscope slide.

Just last week, an article
published in the magazine
Popular Science noted
the potential for research
done at the local lab on
starlet sea anemones to ex-
plain why humans cannot
regenerate limbs. A study
published last month in a
national academic jour-
nal said biologists work-
ing at the Whitney found
a “gene lockdown loop,”
especially, a small set of
genes that, once activ-
ated, prevent cells from
reinventing themselves as
other types of cells.

For another example,
Long said researchers are
looking at how lobsters’
brains receive certain
messages from their anten-
nae. The experiment
will help scientists learn
more about this particular
marine life, but will also
have implications for neu-
rosience.

On Friday, Kaley Dean,
a marine biology major
at San Francisco State
University, was testing
oxygen levels in tanks in
order to measure the abil-
ity of clams to filter water
in low-oxygen conditions,
such as in the case of nu-
trient overload and algal
blooms. A participant in
this year’s Research Ex-
periences for Undergrad-
uates program, funded
by the National Science
Foundation, Dean intends
to pursue a career in wet-
land conservation and re-
stitution.

By staying on site, in
one of the dorm rooms,
she says she’s never more
than 10 feet away from the
action. In addition to her
own studies, she’s assist-
ing other interns in the
program with their re-
search, and vice versa.

“We all do our own
thing, but we’re also help-
ing each other and getting
experiences in other areas
of the lab, too,” Dean said.

Martindale said inter-
actions between different
disciplines is an impor-
tant component in the
lab because everyone can
learn from anyone else.

But time is a big factor
in that equation.

“You can’t just come
here, take a picture, and
then head home,” Martin-
dale said. “We call it re-
search because you have
to do it over again and
over again.”

For more about the
research village, call
315-2758 or email jessi-
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