Space Details

Key:	INTERN16
Name:	Summer Interns 2016
Description:	The Confluence Space for the summer interns for 2016
Creator (Creation Date):	kgomes (May 20, 2016)
Last Modifier (Mod. Date):	linda (Apr 10, 2017)

Available Pages

- Home
  - 01-August-2013
  - 02-August-2012
  - 03-July-2013
  - 04-August-2011
  - 04-August-2015
  - 05-July-2012
  - 06-August-2015
  - 07-August-2014
  - 07-July-2011
  - 07-July-2015
  - 08-August-2013
  - 08-July-2010
  - 09-August-2012
  - 09-June-2016
  - 10-July-2014
  - 11-August-2011
  - 11-August-2015
  - 11-July-2013
  - 11-June-2015
  - 12-July-2012
  - 12-June-2014
  - 13-August-2015
  - 13-June-2013
  - 14-July-2011
  - 14-July-2015
  - 14-June-2012
  - 15-July-2010
  - 16-July-2015
  - 16-June-2011
  - 16-June-2016
  - 17-July-2014
  - 17-June-2010
    - 24-June-2010

        - 01-July-2010
    - 18-July-2013
    - 18-June-2015
    - 19-July-2012
    - 19-June-2014
    - 2-July-2015
    - 20-June-2013
    - 21-July-2011
    - 21-July-2015
    - 21-June-2012
    - 22-July-2010
    - 23-July-2015
    - 23-June-2011
    - 23-June-2016
    - 24-July-2014
    - 25-July-2013
    - 25-June-2015
    - 26-July-2012
    - 26-June-2014
    - 27-June-2013
    - 28-July-2011
    - 28-July-2015
    - 28-June-2012
    - 29-July-2010
        - 05-August-2010
            - 12-August-2010
    - 30-July-2015
    - 30-June-2011
    - 30-June-2016
    - 31-July-2014
    - 9-July-2015
    - Activities
        - Films in the Forest
    - BBQ
    - News
    - Opportunities to Go to Sea
    - Recreational Activities
    - Schedule
        - DOEST Agenda
    - This Week
    - Wednesday 2-July-2014
- 4th August 2011

Home

This page last changed on May 23, 2016 by linda.

This is the home page for the Summer Interns space.

Schedule

Refer to the Summer Intern Calendar (Zimbra Public Folders)

BBQ coordination

T-shirt coordination

Open House Assignments

Weekly updates (Please Report by noon each Thursday)

- 09-June-2016
- 16-June-2016
- 23-June-2016
- 30-June-2016
- 07-July-2015
- 14-July-2015
- 21-July-2015
- 28-July-2015
- 04-August-2015
- 11-August-2015

01-August-2013

This page last changed on May 20, 2016 by kgomes.

02-August-2012

This page last changed on May 20, 2016 by kgomes.

I'm starting my confluence post early because I will most definitely forget it this week...

It's very frustrating when biology does things you don't expect it to, or when you finally figure out that the method you've been planning on using isn't the best way to answer your question(s). I have been working with a new culture in which the females have all suddenly become gravid and the singles floating around are all males, which is a problem since so far, I have used a more-or-less consistent ratio of males:females without eggs for my work. It might not matter now since I'm also changing my approach to better address the question of how non-target genetic material changes what signal I am getting from my copepods in culture. I sort of wish I had talked to more people at the beginning of my project, but at least things are making a little more sense now.

Have to also figure out if something funny is happening with the prongs I am using in lab. Consistency has been decreasing, which is not good.

More later.

03-July-2013

This page last changed on May 20, 2016 by kgomes.

Although this has been a short week, I finally feel like things are coming together on my project. I was able to obtain the preliminary conversion rates for my holothuroids! This allows me to convert my length measurements into a mass which then can be used to estimate population biomass. I am meeting with Christine Huffard today to go into detail about extracting my data from VARS and using software to change the measurement point made in VARS to the actual sizes being seen (makes the measurements based on the known 29cm of the sizing lasers). With thousands of observations already, I have decided that I need to stop collecting data in the middle of next week. I think I am going to come in during the holiday to get a little extra data collected as well. Overall, I think my project is progressing well.

04-August-2011

This page last changed on May 20, 2016 by kgomes.

04-August-2015

This page last changed on Jun 16, 2016 by mage.

click on the ADD COMMMENT button below to post your update

Comments

I'd like to thank Nick Raymond for helping me out this week. He has asked lots of questions, which gives me an opportunity to describe and defend what it is I think I'm doing, and he read through my research paper with some really great advice. So thank you Nick!

I'd also like to thank Jen Valenzuela and Ellen Jacobs for being the best lesson plan guinea pigs any future teacher could wish for. They not only humored my lecture, but played along with the games and gave me some great advice. So thank you Jen and Ellen!

I have made some really great progress towards my 4 projects. Paper is almost finished (lots of revision left), Presentation is basically finished (need to input tables), Lesson Plan is finished, and my Poster is done, just need to make more pictures and take out some words. If everything goes according to plan, I will be right where I need to be by the beginning of next week STRESS FREE.

I sure am going to miss MBARI when this is all over

Posted by dhollis at Aug 04, 2016.

Juggling project stuff, presentation stuff, and paper stuff has been real fun this week...yes, I'm being sarcastic. Adjusting to the new housing has been a bit of a stressor (campus IT has yet to fix the internet issues at our house, yikes!). A recent passing of family member has also been weighing heavy (service is this weekend); it's been no easy feat maintaining clarity and focus, but my work's got to chug along.

I'm clocking in some solid time in Monterey this week...yesterday (Weds), Desmond and I conducted an informal survey outside of the aquarium. What better way to gather input from the general public than by interacting with them first hand! Though we both agreed it would've been better to have done this earlier on in the summer, the feedback we received gave us some great insights on the general public's understanding of our respective project topics and their information sources.

This morning, I returned to the aquarium's weekly story meeting for my marketing/social media/ communications fix. I anticipated discussion over Instagram's Stories feature, which was unveiled this week and is identical to Snapchat. Like other businesses and organizations exploring the feature's functionality, the aquarium is strategically figuring out the next steps in utilizing it to their advantage. As pertains to MBARI's Instagram account (which turns one year old tomorrow), hopefully this new feature will encourage creating/sharing more video content and segue into other video-centric outlets, paralleling the growing popularity of video content in the realm of social media and public outreach. I also helped Dahpne, the aquarium's social media lead, in tackling an Instagram analytics issue that my mentor Susan had also encountered.

I have a few other meetings today with various aquarium folks and am hammering away on project/ presentation/paper stuff in between, giving my eyeballs the occasional break with the overcast, but still gorgeous, views of Hopkins.

Posted by jvalenzuela at Aug 04, 2016.

I think that everyone is stressed out about finishing their projects, presentations, and paper, but worry not! Everyone will do great 

Jen and I conducted some informal surveys around the aquarium area yesterday. Much to my surprise, people were nicer than I had anticipated. Most people were willing to take our surveys and those who declined did so really nicely (for the most part). I spent today compiling the data, analyzing it, constructing bar graphs for the presentation, and determining whether a statistical analysis is necessary.

I am learning some really interesting things about the public but I won't spoil the fun here, you'll all find out next Wednesday.

My story map that I have been working on all summer has been given the thumbs up by all parties (researchers, industry professionals, and my mentor)and I need to write a statement to go along with the release on Monday or Tuesday.

Posted by desmond at Aug 04, 2016.

Here I am Sunday night having seriously forgotten to do confluence, but I'm not the only one so I think that puts into perspective where we all are at with our stress levels. I did a practice presentation last Thursday and got some really good feedback from the lab group I presented to. Thanks to that I now only have a few tweaks left for my presentation! But alas it is not over yet. It kind of just hit me that I go back to school in two weeks which means while also having to complete this paper, I have to complete my actual thesis project, and figure out my life since this is my last semester.... Yay me! But it'll all work out the way it is supposed to! I hope everyone takes care of themselves this week because it's times of high stress when you can find yourself easily catching a cold or something.

Posted by asmith at Aug 07, 2016.

I have been working so hard during this whole week that I even forgot to do confluence on time!
I think we're all more or less in the same position getting so stressed with the paper and the presentation but even though I am too, I'm happy with all the progress that I have made during this week. I made my presentation and I presented to my mentors, they told me that I made a really good job and that there's just a few things to change (most of about grammar and the way I explain things) so I can spend more time practicing for next Wednesday. I have an outline for my paper and a lot of comments from my mentor about how to make it better so I'm more stressed trying to write it than with my presentation, but I have a lot of people willing to help me with this yay!
Tomorrow I have a meeting with my lab group which again is a great way to practice for the symposium and also a good way to try to control my nerves when I talk in front a lot of people.

Posted by mariacl at Aug 07, 2016.

So I realized this week that the tidal harmonics results that I was getting simply could not make sense. They were explaining less than 1% of the variance, and this can not be the case anywhere in the ocean let alone at 4,000m. After baking my head against the wall for a day or two, I realized that a). the time interval that I was using to run the harmonics on, was not constant, and b). the time that the current meter on the rover was recording was not linear.

Once I figured both of these things out I was able to interpolate, and sort the data into a cogent form.

Interestingly (and spoiler alert here) the various components of the tides still only account for about 20% of the variance.

On top of all the project stuff, MLML had their 50th anniversary shindig on saturday, and I had a lot of fun meeting with my predecessors in the phys oce lab, and hearing about the history of the institution, and finding out what everyone does now.

Posted by dburrier at Aug 08, 2016.

Last week was kind of a blur. There were a few last pieces I needed to implement and many a bug to squash, but I think I have a working prototype! Carlos, my mentor, set up a wonderful UI to run this language on, incorporating the error checking elements of the parser and validator to provide real-time feedback on errors in the code. Before throwing in the towel on TethySL (the language's name), I do need to update some of the example mission files built in to the UI so they showcase different elements of the language's syntax and how error reporting works. As it is a prototype, there are still some flaws and room for improvement. I will approach these if I have time this week, but for now my focus is almost entirely on the presentation and the report, which I find much more stressful than the actual project.

Good luck on the presentations everyone!

Posted by emeckler at Aug 08, 2016.

The pressure is definitely on now that this is (so sadly) our last week. I've been collecting a ton of data to tie all the loose ends of my project, which has yielded both great and not-so-great results. Today is my last day of experiments (you'll see me decked out in black today), so here's to hoping all goes well.

Last week I regenerated some photoproteins from my organisms that I hadn't been able to regenerate previously. I was especially excited when I received signal from a doliolid sample - until I realized that it was quite literally THE ONLY sample that should not have given signal, as it is a species not known to bioluminesce that was collected as a negative control for my other doliolid assays. However, I have determined that the sample clearly has photoprotein in it, which could mean one of two things: contamination (but by what?!) or that the species is actually bioluminescent (less likely). In any case, the truth can't be known until more samples are collected and my experiment is repeated with them.

Aside from that, my radiolarian and phaeodarian data looks good, and today's experiments will mark the close on my research with them (only for now, I hope).

Can't wait to share and hear about all of your projects on Wednesday, this will be fun!

Posted by cpayne at Aug 08, 2016.

Last week was pretty hectic and stressful, but all in all it was still a good week and I am constantly learning! I spent all of last week working on my presentation and paper. I was a little frustrated because I put a lot of work last week into a section of my research that I will no longer be using in the presentation or paper, so I feel like I wasted a little bit of time but that is ok because I still learned things in the process. I also realized last week how much time and effort go into the editing phase of presentations and data analysis. I spent most of the weekend working on the final touches for my presentation and practicing my talk. I just hope it goes well because I am extremely nervous! I hope everyone has a wonderful final week and that you get everything completed in time!

Posted by dfabian at Aug 08, 2016.

Last week I continued to process the raw accelerometer signals in an effort to obtain a more accurate velocity estimate from the experimental data. In the past I have obtained great when the translation stage motion was progammmed to have a velocity of 200 mm/sec and a constant accel/decel of 150 mm/sec^2. However, based on the dynamic model of the CPF I created, we believe that the accelerations will be three orders of magnitude smaller. So I have been continuing to refine my signal processing work flow in order to obtain the best possible results (in the remaining time that I have) using the very small acceleration of 1 mm/sec^2 (the lowest that the linear translation stage can move at under the current configuration settings).

Gene also suggested that I test a frequency selective filtering process by creating digital filters with the Matlab Signal Processing Tool Box. The idea was to process the raw accelerometer data with either a high-pass or band-pass filter to remove background noise and the trend before using a cumulative integration method to estimate the velocity profile. In order to systematically run a series of tests and quantify the results of various filters/filter settings, I created a script to plot the average velocity values and variance error bars. In this was it was possible to compare the moving average filter, denoise filter, and new frequency selective filters all together in a single error bar plot. Based on the results from working in the lab on Friday, it seems that the moving average filter and denoise filter offer the best results with the current data set, however with more time I believe that the more general frequency selective filters would be the most robust solution since an optimally tuned band-pass filter could remove the noise and trend from a signal without the need of the detrend() matlab function. For now, I will continue to use the moving average filter and denoise fitler to finish processing my data so that I can complete the presentation and internship report.

Posted by nraymond at Aug 08, 2016.

Well, I broke my streak of doing Confluence on time, but at least I don't think I'm the last one to post (am I?).

Last week was a crazy race to finish my actual data analysis. I finally got all my data, since I am comparing one dataset that I produced to another dataset that was produced by an MBARI collaborator. Once I had both, my mentor helped me filter them so that they were in the same format (we found the sample number of the max amplitude of the click), so they could be adequately compared. With that data, I did a number of analyses to find out different things about my data.

Originally I decided to see if I could use overlap to count matches, but in addition to perhaps not working just because of the sheer number of samples (256,000 per second, so there's a lot of room for variability with a signal lasting only about 100 samples) I also found out that MATLAB doesn't actually like having

900 million data points in one array to work with. Go figure. I did the whole analysis, I just don't really have a way to look at results at the moment. Luckily I'm going to get to stay on for next week since I missed week 1, so that's something I can look into then.

I also made a filter to get rid of the 50 kHz hum from the MARS power supply, but although the filter worked, it did not produce the results I wanted, because PAMGuard actually did worse on picking up only clicks instead of random noise. I talked to my mentor and Paul McGill about it, but we couldn't figure out what was wrong. In the interest of finishing my project in time for the symposium, that's another thing shelved until next week.

I finally did all my analyses on Thursday and Friday (MBARI is very creepy when no one else is around- there were plenty of people in building A but only like one other in building B so every time that person moved around I jumped) and got weird but interesting results. I've spent the last few days checking and rechecking my data and thinking of new ways to represent the data in a way that's less confusing. As I'm working on my presentation I'm realizing the full extent of how much my intimate familiarity with the data makes my graphs more coherent to me- I'm simplifying, simplifying, simplifying. So hopefully no one will be confused by my data by the time my presentation makes it to its final form.

What a busy week! Sorry about the intense lateness of this update.

Posted by ejacobs at Aug 09, 2016.

05-July-2012

This page last changed on May 20, 2016 by kgomes.

 It's Thursday.

06-August-2015

This page last changed on May 20, 2016 by kgomes.

Week 9...

07-August-2014

This page last changed on May 20, 2016 by kgomes.

scroll down and click on the add comment button to post your update

07-July-2011

This page last changed on May 20, 2016 by kgomes.

Weekly updates for July 7th

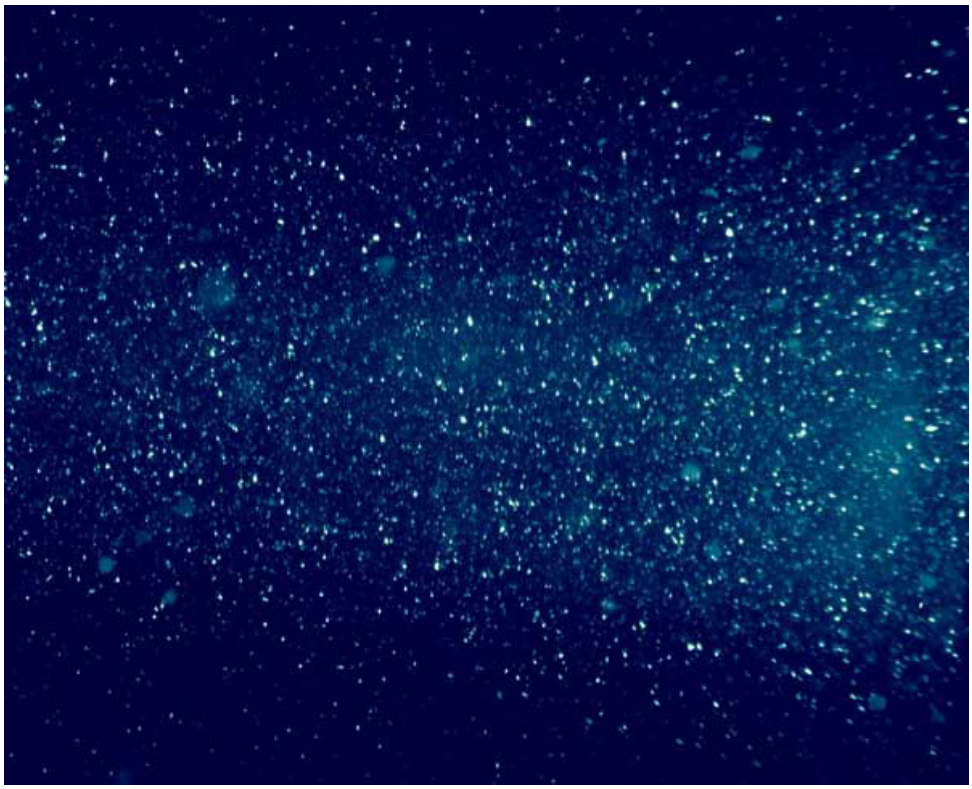
07-July-2015

This page last changed on Jun 16, 2016 by mage.

click on the ADD COMMMENT button below to post your update

Comments

This week has really flown by, but I'm in need of a 3 day weekend. We were able to run some of the videos through the event detection software over the break and I returned to a mass of data yesterday. I have 19 pictures of Chiroteuthis!!! (and approximately 5,000 pictures of marine snow and another 2,000 pictures of the edge of the ROV). We began the process of automation with the least amount of human supervision possible, but I feel we're learning it takes a lot more supervision to be successful. Its a careful balance between more and more supervision and it being less and less worth the effort compared to the process we have in place. I do have a clever idea, but you'll have to wait until next time!



Posted by dhollis at Jul 07, 2016.

Despite being a shortened week, and being hampered by the flu, it has still been a productive week. Since I've been laid up and working from home, I took the opportunity to start writing out my methods section for my final paper. If you are stuck on something or waiting for results, this is a good way to stay productive. I find that it helps with the analysis to write out what I've done so far. In addition it gives

you the benefit of having all of your methods fresh in your mind because you are still in the process of utilizing them.

I'm excited about the ricketts lab tour tomorrow, thats something i've wanted to do for a long time now, I hope I'm back to 100 percent by then.

Posted by dburrier at Jul 07, 2016.

This past week has mostly been filled with intern adventures and shenanigans, but the short time I spent at MBARI has given me more information about what does NOT stimulate bioluminescence from doliolid photoproteins. As exciting as failed experiments are, it's starting to look like my project is better suited for a graduate student (which I might just try to pursue) rather than a 10-week intern. I've become extremely invested in the project, and am determined to make some sort of progress in activating these photoproteins, and in the meantime have ruled out countless possible ways to activate a photoprotein.

My focus up until now has been to add several potential cofactors (including calcium, ATP, NADPH, etc) to crude purified doliolid photoprotein under a variety of conditions (pH, varying concentrations) to rule out (and hopefully rule in) methods of activation. Now, because I have received no signal, I am thinking that my photoprotein has been "used up", i.e. that it has already bound to its necessary cofactor(s?) and consequently changed structure and emitted light. Thankfully, there is a way to regenerate photoproteins from apo-photoproteins (conformationally changed photoproteins). Hopefully after regeneration, I can apply the protocol that worked so beautifully on the cruise and get some light!

As a way to confirm that I'm not doing something horribly wrong with these experiments, I tested for calcium-activated bioluminescence in the shallow radiolarian Collozoam, and received signal. Since the radiolarians have been so good to me, I will also work on purifying and characterizing their photoprotein.

Posted by cpayne at Jul 07, 2016.

This week has been a short but busy week. My mentor and I have planned to officially start our experiment next week, so while he is away, I'm preparing all the materials we will be needing. That includes autoclaving glassware and gathering everything we need (everything I can find at least). Other than getting the materials, I'm trying to play around with the dissecting scope I will be using so I am ready to go on experiment day.

Posted by asan at Jul 07, 2016.

I was able to get my experiment back on track and spent an hour and a half pooling DNA. They are gonna be shipped to Stanford to be sequenced today! My mentor should be back Monday so that'll be cool. Also I'm learning R which is, at least in the beginning lesson, not that hard. The intern bbq is looming which means I'm going to have to cook large amounts of food stuffs which always sounds fun in my head and then the actual action of doing it happens...

Posted by bcorbett at Jul 07, 2016.

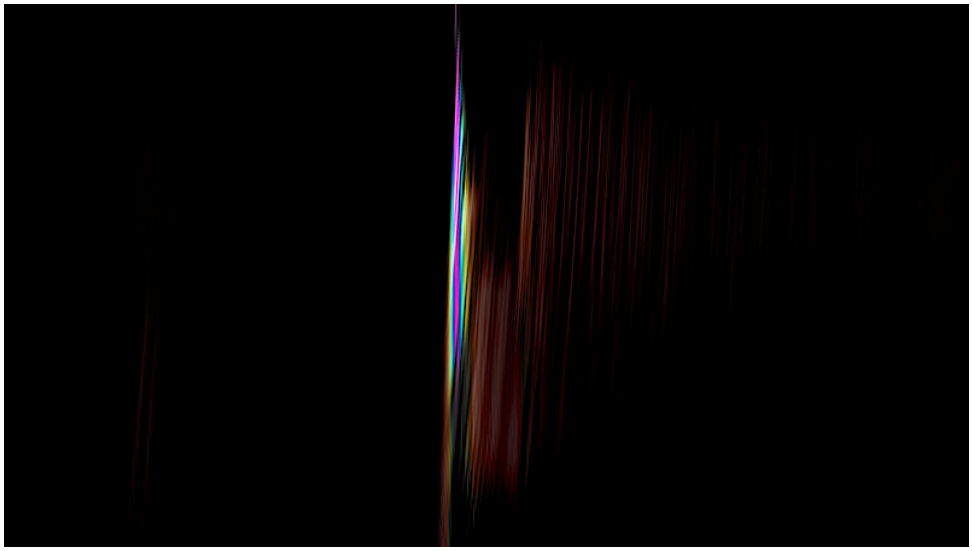
Look, I'm finally writing my confluence on time! Shoutout to me to achieving the bare minimum by week 6. Sorry George and Linda.

This was a short week during which approximately 2% of the people who I needed to answer my emails were actually accessible, so it hasn't been terribly successful. I did manage to screw up the connection between Pamguard and my database, so I'm trying to figure that out. I also ran some Cuvier's beaked whale files from an online database through my different classifiers and found that the signals are pretty different from my data. I am not inclined to believe that this means my whales aren't Cuvier's beaked whales, it just means that there are certain parameters that my tweaked classifier is using that work for the MARS data that can't be generalized. Either that or all my tweaking has actually made the classifier worse, which is another distinct, if disappointing, outcome. I'm still trying to gain a deeper understanding of what each of the parameters really looks for to best fit it to my data, but that requires I extract frequency and amplitude information from individual clicks which requires some hard-core Matlab. I'm going to meet with my mentor later today to do said hard-core Matlabbing, assuming I can snag a license.

I read a really interesting paper yesterday about the known ranges of all the species of beaked whales. Basically what I learned was that we have pretty much no idea the range of a lot of species. Perrin's beaked whale, for example, has only been described from like five strandings. An entire species, where literally the only thing we know about them is that five of them died and washed up between Monterey

and San Diego. Is it a cosmopolitan species that lives everywhere and just happened to wash up there? Is it endemic to the small amount of water between Monterey and San Diego, or some place further out to see that gets caught in the current and ends up there? Is it a big population that's good at hiding, or is it small and rare? There is actually pretty much no information on this, which is completely fascinating. I think everyone kind of assumes that we know about all the big things in our world. We don't exactly go around discovering new large terrestrial mammals every day. But in the ocean it's a totally different story. Perrin's beaked whales were only first described in 2002. I was alive when they discovered a whole new kind of whale! These are not even microscopic, they're like 4 meters long and we didn't even know they were there. They've never been seen alive, which just confirms how important acoustics are going to be to the future of marine mammal research, because I'm willing to bet that they have a species-specific acoustic signal that will be a lot easier to track than visual surveys. Beaked whales may not be as charismatic as orcas or humpbacks, but they're fascinating because there's so much room for research there. Even my dearest Cuvier's beaked whales, the most widely distributed of the beaked whales, are very rarely seen in visual surveys so we don't even really know much about their population size or density throughout their range (hence, my thesis project last year!).

Ok, that's more me fangirling over whales than a research update, so I'll leave you with a cool wavelets image of a Cuvier's beaked whale click, which is a method I'm comparing to Pamguard. This is a visual representation of the acoustic signal, but it looks like something you'd see through a telescope.



Posted by ejacobs at Jul 07, 2016.

This week is going by way too fast! I have been working on pulse 65 measurements all week, and should be finished by today. After that I just have to complete the measurements for pulse 66 then I'll officially be done collecting data. When I finish pulse 65 today I plan to make a query so that I can then create a histogram and analyze the data. I will be comparing this with pulse 64 to see if there are any patterns or differences. Aside from that, Ken Smith's lab is working on figuring out a good method to study migration patterns for benthos near Station M. The plan is to hopefully place a camera tripod at the old Station M site, which will potentially allow us to track where benthic animals are going when they travel out of camera range at the new Station M site. We originally played around with the idea of setting up a zip line type system that went from the old station M site to the new station M site, with a camera attached to the line that would be able to travel back and forth, but the tripod option will probably be more effective. I also started writing me paper this week! I am almost done with the introduction section, which usually takes the longest to write, so I'm a happy camper. Still lots to do and time is slipping away!

Hope everyone is having a great week!

Posted by dfabian at Jul 07, 2016.

I didn't have a super productive week (can we even call it that?). I'm getting shut down by scalaxb, the tool I thought was going to help translate XML schema files to Scala. At first it seemed like a good tool, as it quickly translated the main schema files and had a structure that more or less made intuitive sense. I can't get it to work with any files that contain references to other files, though, which largely limits its usefulness. It has almost no documentation, so getting it to work is a crapshoot. There are alternate

methods, but they wouldn't translate the schemas to Scala, presenting another can of worms to deal with. My mentor and I are exploring workarounds.

The weeks fly by! Feeling the bind a little bit. Hoping to get past this hurdle quickly.

Posted by emeckler at Jul 07, 2016.

A short week made even shorter by Wednesday night races, but actually got a fair amount accomplished. Fit algorithm got trimmed down from ~1000 lines of Matlab to only ~600, and is completely functional (albeit not as user friendly as I thought this morning...). Have a few notes for improving it this afternoon, and it should be all set to go out to sea with us next week!

Still finding strange results from our data though. We've known for a while (from other papers) that pressure and temperature have effects on how water molecules can vibrate/rotate/librate, but it appears that those effects are either strongly amplified or completely changed when the water is jelled. Results so far are inconclusive on which. Whatever jellies do to water, it's certainly weird and warrants more study.

We're gearing up to head out to sea too, with a little more time on Monday to prepare, once I get back from the aquarium trip that is. It may turn out that we can accomplish everything we want to in just three days, and might make it back late on Thursday instead of Friday afternoon.

Posted by mwoj at Jul 07, 2016.

This week I moved on to signal processing and learning about various filtering methods to try and reduce the noise in our accelerometer readings. When running the linear translation stage at slow accelerations (1 - 50 mm/s/s) there is considerable amount of noise that is being detected from the servo drive. I contacted the manufacturer to determine the proper lubrication and maintenance procedure, but have yet to hear back. In the mean time, I have begun to become more familiar with the Matlab Signal Processing toolbox. This allows the user to import a signal (our noisy accelerometer values) and then develop various types of digital filters than can then be exported and applied to all of the test data that I collected last week. One simple filter that I have been trying is the "moving average". The next step is to determine the optimal number of samples used to calculate the moving average and then compare this performance to more advanced filters such as the Welch filter.

Posted by nraymond at Jul 07, 2016.

This week has been super exciting even though it is only 2 days! I finally have a good direction about where my project is going. I am going to be seeing if physical factors of the Bay measured and derived using the Dorado ROV (SST, thermocline, stratification, etc) can be used to sort of predict and understand biological variability (between Diatoms, Autotrophic Dinoflagellates and Heterotrophic Dinoflagellates) in space (map/position in the bay/depth) and time(seasonal,monthly, etc.). I have figured out how to separate the profiles collected by which species was dominating, so up next is to quantify stratification and look at wind data to see how upwelling plays a part in this too. Yay!

Posted by asmith at Jul 07, 2016.

What a funky week to get work done! Don't get me wrong, these long weekends sure are nice, but it's been a challenge working around folks' scheduled away/vacation time.

Fortunately, I was able to coordinate three meetings (one yesterday, two today) with MBARIans whose work ties in to the content featured in my Story Map website: Ken Johnson linked me up with a few of his SOCCOM (Southern Ocean Carbon and Climate Observations Modeling) contacts and gave me a walkthrough of how the publicly available data visualization tools work; Ken Smith lent me hard copies of the research papers surrounding his work on free-drifting icebergs in the Southern Ocean (my eyeballs feel happier reading printed material than from a digital copy on a computer screen); and Brett Hobson explained the technology behind the iceberg AUVs and the implemented use of terrain-relative navigation. All three were extremely helpful and wonderful to chat with!

I'm hoping to get some additional insights from female MBARIans who've worked on Antarctica and Southern Ocean related projects, but the upcoming Flyer/Brewer cruise, along with my project's looming deadlines, may hinder things.

This afternoon, I joined Nick and Aileen in speaking to a group of students from Pajaro Valley High School. We shared our unique backgrounds and paths, along with bits of advice for navigating college and career options.

Looking forward to tomorrow's tour of Ricketts' lab! I'm curious about any new plans or changes since my visit last summer (I believe the city now owns the lab...? At the time, they were seeking public input on what to do with the downstairs/lab/garage space).

Posted by jvalenzuela at Jul 07, 2016.

This week has been short but that doesn't mean it wasn't busy too.
Since day one I have known which is my project but I didn't know how I will be doing it, even Maria (one of my mentors) was a little bit confused about it, but this week I had a meeting with my two mentors to talk about how are we gonna do it.
At first, we thought about using bacteria (with fluorescent genes) to feed micromonas in the dark and see if they actually eat them or not instead of using beads because they can digest the bacteria but not the beads so we make sure they will eat bacteria and not spit it out. But the problem is that maybe the bacteria are too big for micromonas to eat them and we don't have enough time to prove it, so we're just gonna use the beads and see what happens.
Also this week I made by myself a new media with low salinity and low nutrients for my experiments and today we check it and transfers some cultures to that media to see how they responded to it. The media is perfect (good pH and salinity) but we still don't know how is gonna affect to micromonas.
I have been using a machine call The Accuri to check my cultures but we're thinking about using flow cytometry to have more information. The problem is that there's so many people in my lab and they're always using the machine so maybe we'll just use the Accuri for the rest of the internship.

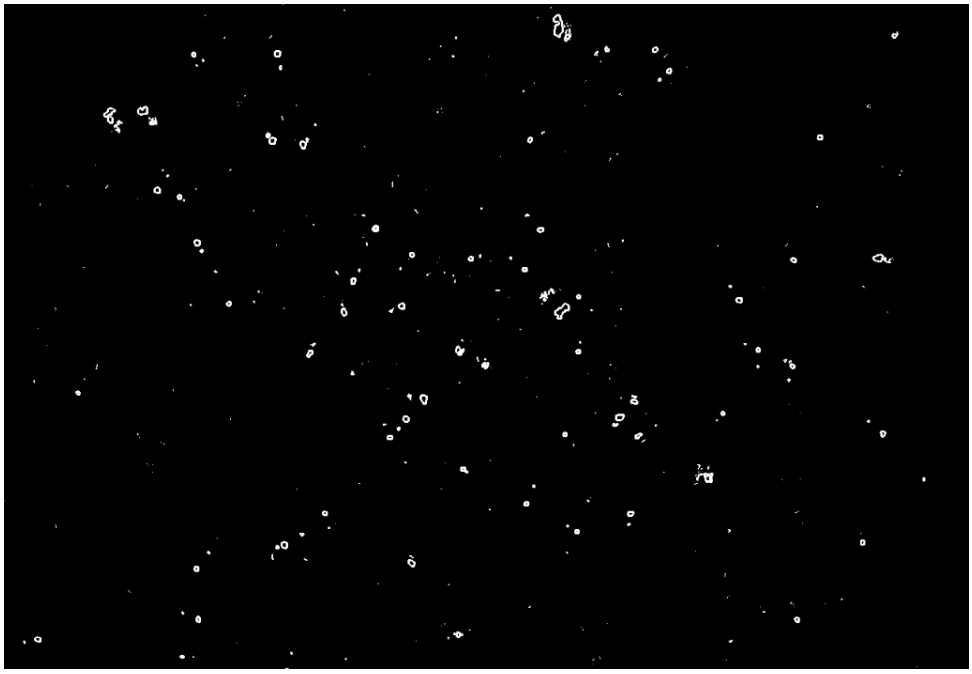
About the experiment we decided to start it on Thursday and check the cultures during 24h, so one of my mentors and I are gonna be sleeping here at MBARI. Another great experience!!

Posted by mariacl at Jul 07, 2016.

Last Friday's pilot experiment was amazingly frustrating, but I also learned a lot so I'm gonna try and look at it from that lens. My mentor and I dissected a male abalone for sperm. However, there was a lot of matter from the digestive gland next door that came with it, which made my samples murky. After mixing the sperm with seawater, I took 10 µl, 50 µl, and 100 µl samples to the microscope. The purpose of this experiment was going to be to generate a standard curve of sperm motility in response to gamete age (over the course of 4 hours), however I ended up not having time to do this, so this pilot's purpose then became to test the proposed methods for the future Sperm Motility~OA experiment.

The 100 µl sample showed a lot of sperm in the field of view, but the depth made it hard for the video to focus as the sperm were swimming up and down the water column. 10 µl gave the best clarity, so I think I will use this volume for sampling in the future. I also had trouble with magnification. 10x objective was the only one that would focus, however the sperm are TINY!! I'm hoping to get the 40x to work because I believe that will be the most optimal.

Here's an image of the sperm post-editing. The software picks up those super tiny cells! Pretty amazing.



I have been working a lot with ImageJ to analyze the videos I got from the experiment. I was able to get data (woo!), but I don't know how accurate it is (boo!). I am exploring if there is a way in the software to manually pick and choose the cells that it tracks because as of now, I think that it is picking up non-cellular matter and including it in the analysis which is making the motility percentage really low.

Official experiment day (July 12th) is drawing ever closer and my partner and I still have a lot to do before then. Unfortunately, we will have to miss the Doc Rickett's lab tour to finish some prepping. Hope you guys have a great time and see ya for breakfast on Monday

Posted by tthisner at Jul 07, 2016.

I spent this week traveling around the San Francisco Bay Area with the CeNCOOS staff talking to folks that CeNCOOS supports and/or want to support in the future. We visited Ocean Science Trust based out of Oakland and talked to several people who sit on the governing board of CeNCOOS. They highlighted the importance of saying the "so what?" question to the work that we are doing with ocean acidification and marine mammal stranding work. Unfortunately, it was quite difficult to keep tracking of what is going on because of the acronym soup that was happening but everything made sense as soon as I asked my mentor afterwards. After OST, we drove out of Tomales Bay, where I got a chance to see Hog Island Oyster Company, take a few pictures around the site for my story map. Lastly, we met with the people at Point Blue in Petaluma, where they are working on whale strike models to determine whether vessels should be slowing down at certain times of the seasons to reduce the amount of whales that would be strike by big container ships.

We were fortunate to stay at Bodega Marine Lab where we got to meet several of the PIs that are working on ocean acidification research, abalone research and kelp forest monitoring research. I learned a lot about the types of research going on in there but the really cool project I got to see was that they have the largest population of white abalone in the world. White abalone are considered very close to extinction and BML has been successful in a breeding program. They hope to find the best location to reintroduce white abalone to the wild and they have treated the current strain of abalone with wax (shell) to prevent them from harboring shell boring animals.

Finally, I got to interview the folks that started Hog Island Oyster Company, which is the real reason for my travels. Terry Sawyer was once an aquarist at MBA and was lured away to start farming oysters. As for the rest of the story, I will be including some snippets of video in my project

Posted by desmond at Jul 11, 2016.

Better late than never? It was a very short week but my mentor came back after 3 weeks away! Woo! So I got to check in with him about how my project has been progressing. He hadn't seen any of the primary component analysis I have done for temperature, salinity, Nitrate, chlorophyll, and primary production so that was new to him. My project has shifted more toward this analysis of modes of variability throughout the whole 26-year time series and slightly away from a straight comparison of El Niño events but since these events are IN the time series and account for a lot of the variability we have seen in the Bay in addition to seasonal change (40-50% of var), it's still inevitably an El Niño project as well.

Posted by gchavez at Jul 12, 2016.

08-August-2013

This page last changed on May 20, 2016 by kgomes.

08-July-2010

This page last changed on May 20, 2016 by kgomes.

-

09-August-2012

This page last changed on May 20, 2016 by kgomes.

EYYY!!!

My last confluence and I am going to be the first one. When it started and George told us that the last couple os weeks were crazies weeks, I thought that it will not happen to me cause I will planning it very well. But I was wrong and George was right. 
My project is almost done, so now I am writing my final project. On friday, my mentor (Mike McCann) give the chance to share with him his project update, and I could present my project too. It was very nice, cause the ask me some question and now I am getting feedback for people who has started to use the tool that I have write. It's so exciting for me to know that some MBARI staff is using a code wrote for me. Another important date was yesterday, cause I present my PhD project in MBARI and we sent an abstract about my project to the American Geophysical Union's 45th annual Fall Meeting.
Now I am a little sad, cause I feel very good in here (MBARI, Monterey, California, USA) and my family too, and now I the program end. But it has been a really good experience that I have enjoyed a lot working and having a lot of fun at the same time.
Thanks to George and Linda for help us a lot, take care of us and offer us so many fun things to do, to all the intern, you all are very very nice and have been my little family during this time, to all the MBARI staff to be so friendly and help me in every little problem that I have had, specially Erich Rienecker, he is so friendly, thanks to him my family and me have had a very nice house, car, seat, and a very nice time on it. And the last thanks, but not less import, to my mentor Mike McCann to make all the thing very easy to me, be so nice, and help me so much to have a very good experience during my internship.

Have I said that I have enjoyed it a lot?????

09-June-2016

This page last changed on Jun 09, 2016 by mage.

Just click on the add comment below and you can post your update

Comments

if you click on the add comment tab (look below), you can insert your update and it will show up under your name.

Posted by mage at Jun 07, 2016.

Just learned how to add a comment on the confluence dashboard! Met with my mentor and discussed possible project ideas. I think I've narrowed it down to something very exciting that should keep me more than busy throughout the summer. I am finding it hard to differentiate my responsibilities with the STAR program and those expected of me through MBARI. There seems to be some overlap, so we need to find a good plan for me to meet all my requirements.

Posted by dhollis at Jun 07, 2016.

Wanted to get this in today since I will be out on the Carson tomorrow.

I hope everybody has gotten the first week jitters out of the way and are adjusting to life here at MBARI. I'd like to reiterate that if you need help with anything while you are here don't hesitate to email me, call, or drop by. This internship is an amazing opportunity, and I'm here to help you get the most out of it.

Since I wasn't there to meet you all on monday let me tell you a little about myself. I am graduate student in physical oceanography at Moss Landing Marine Labs, just up the hill from MBARI. My thesis is on internal waves in submarine canyons (which I'd be happy to tell you all about sometime). I worked with the Smith group last year writing a machine learning algorithm for the Benthic AUV that if implemented could correct navigational errors throughout the course of a deployment. I really enjoyed this project because while I had an interest in machine learning, and vehicle programming, I had no background in them whatsoever. This meant that I got to be very hands on and develop 2 new toolsets over the course of the summer, and see that work immediately applied.

This year I am staying a bit more in my wheel house and analyzing current meter data from the Rover, and nearby Camera tripod, both of which are deployed in the deep ocean at Station M about 200 miles SW of San luis obispo, and a depth around 4000 M. There are very few current meter records this deep in the ocean, so it will be exciting to describe the physical environment at Station M.

Posted by dburrier at Jun 08, 2016.

It's only the first week and it's been plenty busy (not that I mind at all)! Although I've read only a few papers, I've learned a lot about the project I'm a part of and have an idea on what my focus will be. MBARI seems like a really awesome place to be: right outside the window of the Visiting Scientists Office aka my unofficial office is the beautiful Monterey Bay and all the people working here seem to be really great!

I'm super excited to be working at MBARI this summer and am glad I have been given this opportunity to explore the field of marine science!I can already tell I'm going to hate leaving MBARI after summer is over...

Posted by asan at Jun 08, 2016.

First week at MBARI is awesome. I am still developing my research question as well as preparing the materials, methods, and plan that goes along with that. So far I think I will be researching how climate change stressors (low pH, high temperature, and hypoxia) will affect sperm motility using red abalone as a model organism. I may couple this research with how these stressors affect the egg jelly coat and fertilization kinetics.

So excited to dive into this project and to hear what the rest of the interns are taking on 

Posted by tthisner at Jun 08, 2016.

We've only spent three full days at MBARI but we've already hit the sea swimming (sorry, had to). After orientation, I spent day 2 getting started with MatLab and beginning to familiarize myself with some of the principal data sets I will be studying this summer--my research question is still developing but I am planning to use the Monterey Bay Time Series data (Temp, Sal, chl-a, nutrients, etc) that my mentor Tim Pennington has helped to collect over the last 2.5 decades to look into the changing parameters of MBay. I am particularly interested in the recent warming events in the bay (the "blob" and the current El Niño) and comparing them to past years and perhaps other geographic areas (ie. the central Pacific or other latitudes of the west coast).
Bryce and I spent day 3 participating in the collection of the data we will be analyzing over the summer aboard the Carson with the "CTD Team." We stopped at three sampling sites including M1--MBARI's principal mooring station that is often used as a representation of all of Monterey Bay in terms of SST and other essential parameters. The CTD we sent down collects data on temperature, salinity, and depth in real-time and the water samples collected in a Niskin-bottle rosette are brought onboard, filtered, and then analyzed to determine chlorophyll-a, nutrient content, and the eDNA genetic material that Bryce is interested in among other measurements. So cool to be part of this time series legacy!

Posted by gchavez at Jun 09, 2016.

Countless trips to Phil's over the years have often involved walking past MBARI's grey buildings and R/Vs. Ever since I was a kid, I'd been curious about the goings-on here, wondering what it'd be like to be a part of such a prestigious place. Needless to say, it feels awesome experiencing this dream-come-true opportunity!

It's been a fabulous first week (bacon anyone?) with plenty to learn and explore. I'm still processing the heaps of information that's been thrown at us the past few days, but things have been falling into place. The MBARI staff has been welcoming and extremely helpful—the sense of community here is truly something special.

My mentor, Susan von Thun, pitched a great project idea that taps into my design and communications background. Broadly speaking, I'll be creating a content-rich interactive webpage that will feature a specific story or topic (to be determined**). The final product will be shared on MBARI's social media outlets and we'll assess the analytics and feedback (e.g. visitors, page views, shares).

I don't doubt there's plenty in store for the interns this summer; the excitement amongst us seems to be mutual. Looking forward to the coming weeks!

**Update: Looks like I'll be focusing on the Southern Ocean for my project! Totally stoked on this!

Posted by jvalenzuela at Jun 09, 2016.

Monday (6/6/2016)

- Orientation and tour of MBARI facility.
- Met with Ginger from the Chemical Sensor lab
- Updated user password and checked email
- Setup workbench in lab

Tuesday (6/7/2016)

- Met with mentor, Gene Massion, and learned about coastal profiling float (CPF) project and the overall research mission.
- The research team wants to have CPF drift near shore, but not get too close and not too far away (it has to be just right!) so that they can measure temp, pH, nitrates...
- These are passive floats (very similar to the floats used in the ARGO project), they do not have propulsion systems to steer. To ensure that the float does not beach itself, we can use the internal pump system on the CPF (the "dive engine") to change buoyancy of the float and have it drift at a particular depth and catch an underwater current that would cause it move back into the volume of ocean we are most interested in measuring.
- But fist we need to locate these underwater currents and characterize their flow during each mission, so we would need a way to measure the drifting float velocity while it is underwater and out of communication with GPS.

- For the internship, I am tasked with trying to determine if it is feasible to use a small inertial measurement sensor (IMU) to measure the underwater drifting velocity. The sensor is small

and cheap (you have them in your smart phones), but provide noisy measurements that result in accumulated error over time. The sensor measures accelerations that are then numerically integrated to get velocity, any error or noise is compounded during integration...yikes! So I will work to create a simulation model to predict the magnitude of the error that we could expect to have so that the researchers and engineers can determine if using these MEMS sensors is a worthwhile endeavor.

Approach (this is sure to change and evolve over time)
a. make a Matlab/Simulink model of a 9 degree of freedom (DOF) IMU and include mathematical models for accelerometer, magnetometer, and rate gyros
b. add error terms for drift, bias, white Gaussian noise, and cross coupling
c. write a program that inputs the floating buoy path and estimates the error in the predicted velocity based on the sensor model
d. validate the model with testing in the tank
e. if model is validated, test some simplifying assumptions Gene has about how the buoy moves underwater and characterize roll, pitch, yaw rates while buoy rises to surface.
f. if this all works, try an ocean test and see if we can measure the underwater drifting speed in the OCEAN!

- Met Jose, Tom and Jim from the Electrical Technician lab. Was shown how to use the soldering equipment and fabricated a wiring harness for the IMU sensor that I will be using.

Wednesday & Thursday (6/8 - 6/9/2016)

- The rest of the week was spent learning to use Microsoft Visual Studio to program in C# ("cee-sharp") programming language.
- Working to write drivers in C# so that we can communicate with the BNO055 IMU and read the sensor values over I2C bus lines.
- I am learning how to use this programing language and also how to write drivers to interface different pieces of hardware together.

Goals for next week:

- Finish writting the drivers for the IMU and start reading sensor data to SD card to verify it is all working as expected
- Start working on the Matlab model of the IMU sensor
- Create code to take accelerometer data and numerically integrate to obtain velocity estimate.

Posted by nraymond at Jun 09, 2016.

My mentor is out of town this week but a post-doc who works under her has been here showing me the ropes and my mentor (Monique Messie-didn't know how to get the accent mark over the last 'e' sorry!) has been super helpful over emails sending papers and example MatLab scripts to look over! I have been messing around with one example to run for different variables at different time periods that were recorded on the Dorado and that has been pretty interesting. This project is open ended so I am still trying to figure out what my exact project will be, but I will be discussing it with her when she gets back next Tuesday!

Posted by asmith at Jun 09, 2016.

First week is going well; It has included a lot of (interesting) reading so far, and yesterday Ed and I successfully mucked up the MATLAB installation on my lab computer, forcing Peter to do a clean install for us this morning. It seems to be in working order now though. We've been doing some prep work for our trip out on the Rachel Carson on the 23rd, setting up a capture system for midwater jellies that we can flood with Argon to get a clean Raman signal. I've been learning about the DORISS II setup and operation, both the advantages and disadvantages, and the hopes they have for the DORISS III system currently in development. Still working on a specific research question for the summer, but it's looking like it will involve setting up processing software for data obtained with the DORISS III setup in such a way that we can make meaningful comparisons to the spectra already collected with the earlier systems.

Posted by mwoj at Jun 09, 2016.

MBARI is pretty much a dream land for nerds(me). Everyone is so friendly and helpful even if they don't know you, I got lost yesterday, of course and met Jim Montgomery from Wisconsin who's an electrical

engineer here and he was more than happy to show me the way. Everyone smiles even when its early in the morning!

Tuesday I met with Dr. Chavez and came up with my research project which will focus on eDNA to determine if the high population of anchovies in the years 2012, 2013, & 2014 was due to a preferable zooplankton species being present. DNA extraction and PCR are two lab techniques I will most likely be using to analyze data from samples. Dr. Chavez gave me a proposal to read as well as a lab protocol. Yesterday I was fortunate enough to go out on the Rachel Carson with Zi and Gabriela using the CTD. We collected chlorophylls and filtered eDna using a .2 micron filter. Today I will be working with Kristine Walz in lab getting eDNA from the Gulper(an AUV) samples and finishing reading materials.

Posted by bcorbett at Jun 09, 2016.

First, let me just say that MBARI is basically Willy Wonka's chocolate factory for science majors!! This place is incredible and I am so happy to be here! So far this week I have been working on forming my research question for my project, as well as getting familiar with the software that the deep sea lab uses to analyze data. I having been using the VARS software mostly, which allows you to annotate imagery collected at Station M over time. I think it is awesome that the software was developed here at MBARI, by Brian Schlining! My focus area for my research project concerns Echinocrepis rostrata, which is an unusual looking sea urchin species that is periodically present on the deep sea floor at Station M. This species has been found to be a good indicator for impacts of climate change within the ocean, specifically within the deep sea community. I am currently going through imagery collected at Station M and observing the moving/behavioral patterns of this species, as well as trying to determine whether there are differences in such patterns when comparing individuals of different color and age. Aside from that, I will be going on a cruise next Wednesday with my mentor and the rest of the crew from the deep sea lab. We will be going on the Rachel Carson, and I can't wait! I am excited for what is to come and ready to learn!

Posted by dfabian at Jun 09, 2016.

Cool first week at MBARI! I spent the first half of the week researching different potential projects, but as of late yesterday my project is ironed out. The LRAUV operators write mission scripts in a clunky language called XML. It has its uses, but for the operators wanting to quickly define a new kind of mission, it's very cumbersome. I'll be spending the summer developing a domain-specific language (DSL) for them to use for writing mission scripts. A DSL can be cleaner and less clunky than XML because it's single-domain: it doesn't need to support the same wide-range functionality that a language like XML does. After developing the DSL, I'll work on a translator from the DSL back to XML so that new code they write is compatible with the old stuff. Next week I'll continue to familiarize myself with the XML schemas used to write mission scripts, explore language parsing for the eventual translation, and meet with LRAUV operators to hear their thoughts about which parts of XML work for them, which parts don't, and what their ideal language would be like.

Have a good weekend all, see you on Monday!

Posted by emeckler at Jun 09, 2016.

I'm finding that I very much enjoy working at MBARI! Everyone is extremely friendly and helpful, and it feels as though I am quickly becoming a member of the MBARI family. I have been working hard with the Haddock lab to prepare for our upcoming week-long research cruise (leaving tomorrow - yay!!). We've been loading up the Western Flyer with the gear necessary to track and collect organisms that emit bioluminescence. I will be performing assays on the luciferins (light emitting compound)/luciferases (oxidative enzyme) found in bioluminescent ctenophores, radiolarians, doliolids, and more to determine the biochemical processes that characterize each organism's light emission. Joining us on board will be a BBC camera crew to document the cruise's finds and compile them into a film on bioluminescence. This will be my first overnight cruise, so this should be very fulfilling and exciting!!

Posted by cpayne at Jun 09, 2016.

It's just the first week but I know I'll miss a lot this place. I made a big big travel for being here and at first I was so afraid about being so far away from home, talking and listening another language and just being surround by strangers. But I couldn't be happier right now. Everyone (interns and people from MBARI) are so nice and very patient with me and my english.
My mentor is not here until next week but I have like another mentor and she's very nice with me all the time. Also my lab is very international, there's people from France and I think there's someone from

German I can't remember but I feel like I'm not the only one with some difficulties with the language. All of them seems very smarts and they're working on really cool things so I hope I can learn a lot of things from them.
We're working with micromonas (picophytoplankton) and what we wanna do this summer is find out if micromonas are myxotrophis or not. For this week we have been doing some new cultures and measuring them using a very cool machine called The accuri and today for finishing the week, I did it by myself for the first time!!!
I find everything very interesting although we're still not doing so much things, just like the introduction so I really wanna see what we're gonna do next week!

I also met a women called Katie Loweth. She's from England and she can talk a little bit of Spanish so that made my day!!

Have a nice weekend

Posted by mariacl at Jun 09, 2016.

Orientation day was mind blowing as we got a glimpse of the projects that MBARI is capable of doing! I unfortunately had finals and had to leave after orientation but I did get a chance to meet with my mentors - Aric Bickle and David Anderson. We brainstormed some ideas for what I will be doing for the internship. Part of the CENCooS monitoring program include looking at ocean acidification and we want to write a story on how ocean acidification will have an impact on humans. Our current idea is to interview scientists and businessmen in the areas of aquaculture and looking at it from both a scientist's angle and from a business prospective.

I will start working officially tomorrow! Today was a great day aboard the Rachel Carson

Posted by desmond at Jun 13, 2016.

This is very late as far as "Thursday Updates" go but I've just arrived at MBARI and am really excited to get started with everything! Last week kind of went by like a blur, taking finals and packing my apartment and walking at graduation, but now I'm ready to be here instead. There is a ton of stuff that I'm not sure about and I haven't really done anything worth updating on yet, but I did install a mouse onto my computer and fix a tax form so at least I have accomplished something. Hopefully by Thursday I will have more to report on!

Posted by ejacobs at Jun 14, 2016.

This week has been very exciting for me, so I'm posting my confluence update a day early (I'll be gone tomorrow). On Monday, I had the privilege of joining Dr. Stephanie Bush on the hunt for the *opisthoteuthis sp.* flapjack octopus! I was told to not get my hopes up as they are not always successful, but *opisthoteuthis* was the first thing we saw as the ROV hit the bottom. The first 30 minutes were really exciting and then the next 8 hours of sea sickness made the trip a bit less fun, but I had a blast and I'm really glad I went. Tuesday was really interesting, since I'm ahead of schedule on my project, I got to sit in on the presentations during the DOEST board meeting. I was able to gain a better working knowledge of my own project and the role our project plays in the future of MBARI. I was also happy to finally talk to someone in my own field, Microbiology and Clinical Laboratory Science (Dr. Norman Pace). Finally, on Thursday I get to go to SLAC and tour the particle accelerator lab and make contact with other STAR members. I was really excited to nerd out this summer, but this week has been exceptionally geeky. (FYI- Jen and Alaina are pool sharks, proceed with caution)

Posted by dhollis at Jun 15, 2016.

This Monday I had the pleasure of being invited on the Rachel Carson to seek out opisthoteuthis sp. (flapjack/adorabilis octopus). Getting a chance to see the MB Aquarium folks in action/behind the scenes was such a memorable life moment as I have gone to that aquarium since I was a little kid. Such a great crew, group of scientists and fellow interns to talk to and learn from. Seeing the ROV vacuum arm collect benthic creatures was too awesome. Maria took a great video of flapjack if anyone wants to see.

On the work side of things, I have just been continuing to prepare for my experiment. Aileen and I purchased 3 M/F abalone from Davenport Abalone Farm and our mentor instructed us in abalone husbandry so that we can keep our animals happy until our individual experiments. Excited to continue!

Posted by tthisner at Jun 15, 2016.

10-July-2014

This page last changed on May 20, 2016 by kgomes.

This week, I ran multiple rounds of PCR on tissues from three different squid species and a nudibranch species. 2/4 rounds of PCR were successful (i.e. my primers amplified something). I ran the PCR products on a gel and cut out the most promising bands. I was able to get DNA from the bands, which was then sequenced. Good news: I have viable sequence for Pterygioteuthis! Basically, the photoprotein sequence that was found in a different species of squid appears to have similar genetic structure to the photoprotein sequence in Pterygioteuthis. Now I'll actually have something interesting to talk about during my presentation, even if nothing else happens during my project!

11-August-2011

This page last changed on May 20, 2016 by kgomes.

woohoo - heading down the homestretch now! last week!! last confluence update. Titles due Friday - and I'll see you Monday morning in the Harbor View Conference room at 9 am.

11-August-2015

This page last changed on Jun 16, 2016 by mage.

click on the ADD COMMMENT button below to post your update

Comments

Ah HA!!! Finally first. Only took 10 weeks 

Great job on presentations everyone! Thank you everyone for a great summer. While there were many frustrating times during the completion of the project, the presentations yesterday hit home what we accomplished!

The first half of the week was stressful as you all know. Many late nights going over the presentation and practicing. Most of the time I looked like a crazy person talking to myself but it was well worth it in the end. Today and tomorrow I will be figuring out what I will do next week for my mentor - I am staying another week to fulfill my 10 weeks as I missed the first week. I will most likely be designing a template for the CeNCOOS newsletter using Adobe in-design.

Posted by desmond at Aug 11, 2016.

Desmond finally beat me to first! I was not nervous to present my work at the symposium and i was actually looking forward to it. Up until I heard everyone's presentations and realized the bar had been set very very high. I am super proud of everyone. I am finishing the week off by moving all my things over to a place where my mentor can access it long after I leave. I feel like I couldn't make a meaningful contribution here when I first arrived, but as I pack up my desk, I feel like I may have. While I only did the busy work most people wouldn't have wanted to do, I got to contribute to some very exciting, cutting edge stuff and I'm anxiously awaiting the results to the training images I created. Thank you all for the support and for being so kind to my wife while we've been here. Baby Cedar is a thousand times smarter for getting to listen to all your presentations.

Posted by dhollis at Aug 11, 2016.

It seems rather appropriate that my last-ever Confluence update would be five hours late, doesn't it?

The last couple of days have been filled with scrambling to finish all the Matlabbing I needed to do and practicing my speech until it became muscle memory. I'm not sure if the rest of you could tell from my incessant fidgeting and worrying yesterday (ha), but I was very nervous. In the end, though, I was really pleased with how it went! I looked briefly through the recording my dad made of my speech (because of course he videotaped the blue jeans recording, even though I told him they were also recording) and I am pretty sure I didn't stand still for the entire 15 minutes, but I didn't panic and choke on stage so I am happy with that performance. The people watching appeared engaged, and the questions I got at the end made me think that people actually got something out of my presentation and thought that my project was interesting. I'm glad, because I thought my project was interesting and I wanted that to come across. I got a lot of compliments on my presentation by other MBARI employees afterwards and even if they were just out of politeness, I really appreciated them. There were a lot of people in the audience that I really admired, so I'm glad they enjoyed it!

Now, I get to go back to working with my data for the next week! It's almost worth missing the first week to get this week now, because now I've gotten everything figured out and I have all my data, so I can spend the next week doing more detailed analyses. I'm really, really sad that everyone else is going to leave, but I'm glad for the opportunity to stay for another week. Now I get to do all the things I skipped over because of the time crunch, and hopefully some other new and cool stuff too! Of course, all the stuff I skipped is hard stuff so it's not going to be a simple week, but hopefully I can answer some of the things I had to leave unanswered for my presentation.

Final confluence shoutouts, not just from the last week: to Desmond, for organizing the thank you gifts for George and Linda, to Jen for organizing the t-shirts (I'm excited to pick mine up tonight!), to Nick for teaching me basic Matlab signal processing (I should've given you an explicit thank you in my presentation, you were so helpful), and to Alaina for reminding me to breathe yesterday.

And with that, my final Confluence essay concludes. Thanks for a great summer.

Posted by ejacobs at Aug 11, 2016.

Crazy final week! Presentation prep was scary and stressful but all went well enough. Seeing everybody's presentations was great! Everybody had such interesting projects, and I learned a lot from the talks.

I have two tasks left to do: the reports and cleaning up the code so whoever works on this next doesn't bash their head through the drywall trying to figure it out. The latter I'm almost done with. Hopefully my project does get continued! It would be cool to have started something that actually gets used around here.

I'm not very good at reports, though, so this last day is a proper struggle. There isn't any good way to make any sort of edits if you dare have a figure anywhere in your entire document...

Anyways, I hope you all have a wonderful remainder of the summer! I'm heading out to Colorado in a week to climb on some actual rock for the first time since May, which I'm very excited about. I wish you all the best, it was a pleasure interning with you!

Posted by emeckler at Aug 12, 2016.

Wow, what a week this has been...

Things have been interesting, to say the least, in these final days of the internship.

Unfortunately, I was not allowed the opportunity to deliver my presentation at the symposium, and, as of this time, do not know whether my mentor has reviewed it. However, the feedback I've received from those who I did have a chance to show it to has been overwhelmingly positive.

For those interested, in my presentation: I describe myself and my unique background; my tie in to marine science; the value of effective science communication; MBARI's current state of disseminating information to the public, as described in Chris Scholin's Directors Dialogue; behaviors and knowledge of the general public; the process in developing a possible solution for communicating info to the public (the Story Map website), including opportunities in current social media trends and incorporation into lesson plans via EARTH; and, ending on a great quote about how "science isn't finished until it is communicated."

On another note, I attended a lunchtime seminar yesterday at the aquarium, featuring the aquarium's Teen Conservation Leaders Social Media Team. Wow, what an impressive group of teens...they delivered an absolutely AMAZING presentation about their work utilizing social media avenues, especially Snapchat and Instagram. It was a perfect demonstration of highlighting successful strategies for disseminating information to teens and young adults (whom, research shows, have interests in pursuing STEM careers)!

And so, to conclude this last Confluence report...I've had numerous, invaluable takeaways from this summer that I'm beyond thankful for. The information, insights, and connections I've gained through this experience has already opened new and exciting doors; moving forward, I'm eager for what's to come!

Wishing everyone the best, thank you for everything!

P.S. Glad y'all like the shirt designs!

Posted by jvalenzuela at Aug 12, 2016.

11-July-2013

This page last changed on May 20, 2016 by kgomes.

11-June-2015

This page last changed on May 20, 2016 by kgomes.

just use the add comment to add your update below

12-July-2012

This page last changed on May 20, 2016 by kgomes.

Halfway point!

12-June-2014

This page last changed on May 20, 2016 by kgomes.

just scroll down to the bottom where it says add comment - and add your update

13-August-2015

This page last changed on May 20, 2016 by kgomes.

13-June-2013

This page last changed on May 20, 2016 by kgomes.

14-July-2011

This page last changed on May 20, 2016 by kgomes.

This has been a week of good progress asI finished and tested a prototype version of my key for deep cydippid ctenophores. Over the past few days I have expanded upon this base by adding images in both the stomadael and tentacular place, to provide a visual method to verify the classification.

I have also merged my key with a table of characters that Steve created for the described species. My aim for the rest of the time here is to gather the same level of morphological detail for the described species so that they can be fully integrated into the key. Hopefully I will have time to perform a similar process for the undescribed deep lobate ctenophores also, rounding out the key and bringing it closer to completion.

14-July-2015

This page last changed on Jun 16, 2016 by mage.

click on the ADD COMMMENT button below to post your update

Comments

First, I just wanted to say that I really enjoyed the behind the scenes aquarium tour Monday and that I think we did a great job with the BBQ! Thank you to everyone who put in a lot of time and energy to make it what it was. This week I have been working on annotating pulse 66, which is the last pulse I will be doing for my research. I plan on finishing pulse 66 by the end of the week and will finally be able to compare it to the other two pulses. Once I do that I can start playing with the dataset. I am excited to have my mentor teach me about a few programs, of which I have yet to be educated on, that will allow me to run stats and see patterns within the data that I was unable to before. Learning how to make use of these programs will be greatly beneficial in my future graduate studies. After I analyze the data I will be able to start focusing on writing my paper. As usual, this week has flown by! Hope everyone is having a great week. 

Posted by dfabian at Jul 14, 2016.

This week was spent fabricating a fixture in the MBARI Model Shop to allow for more accurate IMU sensor calibration as well as rerunning the accelerometer sensitivity tests with the linear translation table. Before being allowed to operate the milling machine in the Model Shop, I met with Mike Parker for safety training and a proficiency test. I have operated Bridgeport milling machines with CNC control at the UC Davis engineering fabrication lab in the past and was very familiar with the equipment. Once authorized to use the mill, I designed a simple 6-sided fixture using a scrap piece of 3" x 4" 6061-T6 aluminum rectangular extruded tube that I found in the scrap bin. This simple design would allow the IMU to be mounted inside the aluminum "frame" and then be indexed on all six faces. This is required to setup the accelerometer and magnetometer calibration offsets to ensure the best performance of the Kalman filter which fusses the accelerometer, gyroscope, and magnetometer data together to produce an estimate of the sensor orientation relative to an inertial reference frame (the ground).

With the fixture fabricated, I was able to finish the IMU calibration process and read the calibration offset values from the sensor's memory registers. Unfortunately, these calibration offsets are stored in the sensor's temporary memory and are erased when the sensor loses power. Thus, the calibration process must be completed every time the sensor power is cycled on/off. To avoid this problem, it is possible to manually overwrite these calibration offsets to the memory register every during the initialization process right after a reboot. This ensures that even if the sensor temporarily loses power and reboots during ocean deployment, the correct calibration constants will be manually written to memory and the output sensor values will be as accurate as possible.

With this process complete, the rest of the week will be spent rerunning the acceleration tests that I ran two weeks ago using the linear translation table having accelerations ranging from 1 mm/s/s - 100 mm/s/s. During the previous tests, the sensor was not fully calibrated. For this next round of tests I hope to see less noise in data and compare the raw sensor outputs to that of the fusion outputs from the Kalman filter.

Bonus 01: we had the intern BBQ this week on Wednesday and it was a big success (even if we were 30 minutes late). Special thanks to BBQ master Drew for helping setup the grill and managing all the details during the prep and setup. I was really impressed with the team and how everyone pulled together to make it all happen. Kudos to all my fellow interns!

Bonus 02: I went out on the Paragon this week with engineer Brent Jones and Jared Figurski. We successfully deployed Brent's coastal profiling float on Tuesday morning. After deployment, the CPF performed basic diving tests and Brent said all systems looked good. To float was collected the following day.

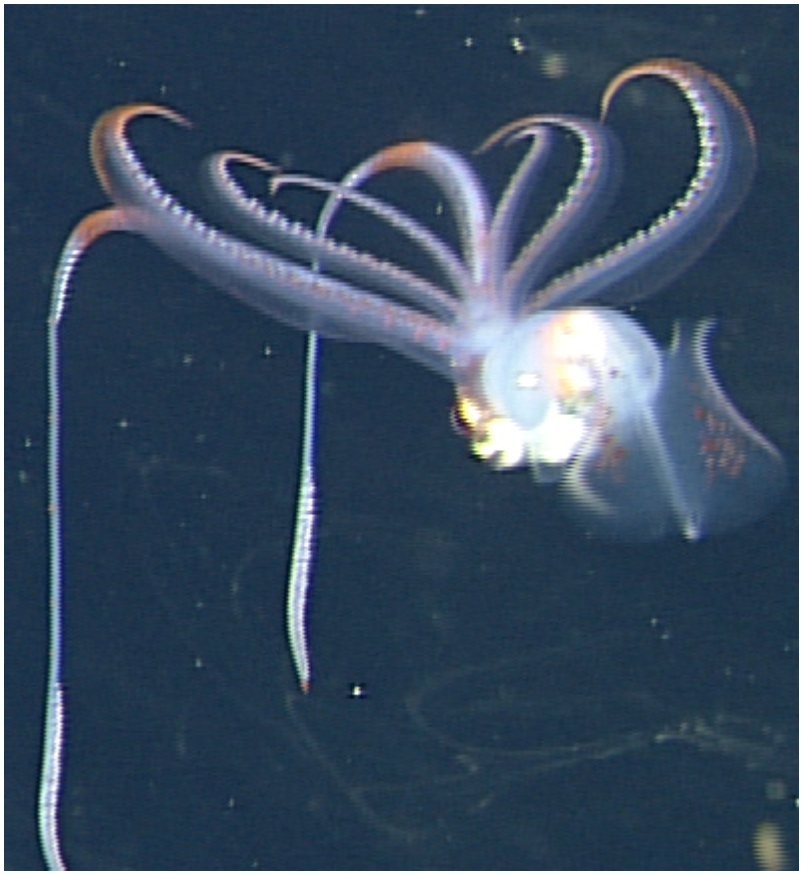
Goals for next week:
a. test various signal processing schemes/filters on new data set with Matlab Signal Processing Toolbox
b. identify the lowest possible acceleration that can be reliably detected by BNO055
c. perform overnight test with sensor and produce Allan Variance plot to characterize noise profile of gyro and accel
d. switch to the GHI Lemur board and fabricate a new circuit board with integrated IMU and battery

Bridgeport Milling Machine

Coastal Profiling Float

Intern BBQ 2016 - setup

Posted by nraymond at Jul 14, 2016.



We've been having some success with mid-water, but the results haven't been as successful as the benthic observations. I noticed one of the specimens we were wanting to get images of was collected and studied in 2012 by MBARI. After checking in VARS I found him popping up a bunch around that time. Instead of trying to catch images of him as we drove by, what would they look like if we used the videos from collection of this particular specimen? Well, they look amazing! we're getting some high quality images from a lot of different depths of field and coloration. Unfortunately, we have been using tracking to get better images of him, which helps to isolate him from the marine snow as we drive by. We should have turned it off for these videos because I now have somewhere around 4,000 pictures of this one squid. Its ok, but we want to use lots of pictures of chiroteuthis for the convNet and not a bunch of pictures of just Fred here. Considering chiroteuthis is not an abundant animal in our archive, I think we'll have to use what we can get. Either way its very promising. I have a supervised training hypothesis that I'd like to try out on Peniagone. I've been reassured by my team that its a really good idea, but probably won't work... so you're saying theres a chance!?

Posted by dhollis at Jul 14, 2016.

This was a pretty fun week! The aquarium tour was awesome, it was great to get a glimpse of what happens behind its tanked walls. Also, the BBQ was a total hit! Many MBARIans have expressed to me their sincere appreciation of the food, so nice work team!

Apart from intern shenanigans, I'm getting light!!! Not from the doliolids (_), but from some radiolarians. This is great because I can at least start characterizing the radiolarian photoproteins. Today I am running a regeneration experiment on radiolarian and doliolid samples to 1. determine if the photoproteins from the doliolids were already conformationally changed when I was testing them and 2. regenerate "spent" photoprotein from the tested radiolarians (i.e. those that were conformationally changed and released light when Ca was added). If this works (fingers-crossed) I will have much more material to work with.

Posted by cpayne at Jul 14, 2016.

Pretty awesome week so far if I do say so maself.

Kicked it off with a very special tour of the aquarium, and even though i've been there a thousand times its always great to see something new. Getting to see the TRCC was a first for me, and definitely my favorite aquarium experience so far.

Next came the BBQ, which dominated my productivity this week, but I think it payed off with a delicious and enjoyable experience for everyone involved. It was great to see you all come together to accomplish something, and even though its just a BBQ, I think its a formative experience for intern groups every year, to work hard on something together. I challenge you now to attack your looming final presentations with the same intensity and teamwork. We are all in this together, so put together practice talks get feedback from your fellow interns, and use this week to pivot into the final month with the same spirit, and community that we developed with the BBQ this week.

Finally on to the science I've been working on this week. I have to submit an abstract for my thesis work to the Eastern Pacific Ocean Conference by tomorrow so i will be wrapped up in thesis-land, for most of the morning today. As far as my mbari project goes, i've finally been able to run the rotary analysis on my data sets, and now with the harmonic analysis, I am getting a clearer picture of the fluid environment around the rover. I am now starting to put together my final powerpoint (as I encourage you to start doing) so that I have an idea of what visuals I need to produce, and still have time to make them look nice.

Posted by dburrier at Jul 14, 2016.

So we started out strong this week, loaded out the rest of our gear on Monday and made some final pre-cruise touches to the fitting program, and everything was set to go out.

Launched on Tuesday and dove to 1500m, collecting samples every 100m or so on the way up until we had to recover after dinner, getting 6 different jellies and a few spectra from each. We were getting data consistent with what we found on the Carson, which is encouraging given how strange it is. Still don't fully have an explanation for how jellies make their jel, but it seems that depth (or actually temperature and pressure, Peter Brewer would kill me if I tried to claim depth dependence) affects how they configure their water molecules. Peter suspects they have a very clever way of manipulating the water so that it's semi-solid but still flexible at high pressure and low temperature, which would allow them to move down there.

Wednesday started early, diving at 6:30 down to 2800m. We found one jelly down there, a small one, and shot a few spectra. This time, the data was not entirely consistent with the rest of our in situ jelly spectra. It appeared that this species has (at least) one more way the water hydrogen bonds can stretch, but we suspect this is just a species variation, rather than a hole in our previous data. We also got a sample spectrum of our jello on deck, and then again down at depth. After correcting for the absurd amount of fluorescence the jello has, we discovered that bovine gelatin doesn't really do anything to the water molecules themselves, but constrains the entirety in a solid. Basically, jello looks just like liquid water when shot with a laser. Which is particularly interesting then for the jellies, since it adds to our suspicion that whatever jellies are doing is exceedingly clever, to maintain flexibility of the jel even in extreme conditions.

We then came up to about 2600m and captured another jelly, but before we could collect any data one of the pilots noticed that the cable housing our fiber optics cables had slipped. We now had bare cables

supporting the weight of the housing, and decided to recover instead of keep working. On the way up, both the collection and excitation fibers broke (and we suspect the spares too, although have not actually checked). So we came in last night and grabbed the spare cable, hoping to be able to head out this morning. Instead, the epoxy holding the ceramic cover for the cables had gone bad (amazing what 13 years of sitting in a cardboard box can do!) and broke off in the connection port to the laser. Now we're hoping to get the fibers reterminated by tonight and head out tomorrow morning for a shorter dive day.

In the meantime, we have plenty of data to fit curves to, so I get to have a nice relaxing day of making small changes to fit parameters and hoping it doesn't mess everything up.

Posted by mwoj at Jul 14, 2016.

This week has been a good step in the right direction! I was feeling a little lost on where to go next with my project, but I met with my mentors after the aquarium tour on Monday and figured out where to focus my efforts, so I feel like I have a place to go now. What I've most realized is that bad results are still results- I haven't succeeded in making an effective PAMGuard classifier, but I'm coming to believe that this is in large part the fault of PAMGuard's approach to click detection and classification. I came into this project knowing that there will never be a perfect classifier, just because life is messy and nothing ever fits into the perfect classifications that theoretically should be right- biologists can't really just assume everything is a perfect sphere.

I'm having a lot of issues with Risso's off-axis clicks looking like beaked whale clicks, which led to an interesting train of thought about acoustic social communication (aka humpback whale songs) versus odontocete echolocation clicks, which are what I'm looking at. With social communication there is clearly an evolutionary drive to differentiate a species' calls from other species, since the expressed goal is to communicate with members of one's own species and the individuals need to be able to tell which calls are from their own species somehow. With echolocation clicks, though, they're not trying to communicate- they're just trying to eat, and this is the most effective way for them to "see" through the murky water in their offshore habitat. There's not really incentive for them to differentiate from another species, since the signals are comparatively so short-ranged that they're not as likely to get mixed up. All this results in it being really hard for me to tell common species (Risso's dolphins, which I was fortunate enough to see whale watching this weekend! That was super cool. Now I have some context on this species I am constantly frustrated by!) from uncommon species (my dearest beaked whales). I think I'm going to try to tune my classifier to be more picky, to take only beaked whales at the risk of missing some bad beaked whale clicks, rather than be broad enough to catch all the beaked whales but also catch dolphins, rendering the data pretty useless for determining population estimates or habitat density, which is kind of the direction I'm going in. Catching every click would be more useful for behavioral information, but at this stage in the technology's capabilities I am more interested in trying to get this larger population information.

At this point I've just accepted that this method of classification that PAMGuard utilizes is never going to be very good, and I'm increasingly interested in the wavelets method and neural networking as potentially different approaches (the two seminars this week were very relevant to my train of thought!). But my project is PAMGuard, so I have to stick with it and make it as good as it can be, despite my theory that it's a little too user-friendly, aka doesn't use enough parameters, to really do a good job.
A couple days ago Nick was kind enough to give me a crash-course in basic Matlab signal processing toolkit usage (and some electrical engineering, because my background is not that strong), so now I'm in business on Matlab. I was feeling a little incompetent post-crash-course just because it pointed out just how very much there is for me to learn about the technical side, so to boost my confidence I wrote a very pretty function that will take my file name and sample number and spit out the exact real-world start time of the click. Sample number to seconds could've been accomplished in three lines of code, but I really enjoyed increasing the amount of work that Matlab will do for me because I do like coding. Now I'm going to use the spectra to look at some really great treasure troves of verified Cuvier's beaked whale clicks that was sent by an MBARI consultant to see their characteristics and tune my classifier to those good examples. It's a little weird using Matlab to tune Pamguard when I can (conceivably) use Matlab to just accomplish the same thing that PAMGuard does with the tools in the signal processing toolkit, but I'm hoping it will help make PAMGuard less bad.

I have a lot to think about now, because everywhere I look there are interesting questions being posed that eventually acoustics will hopefully be able to answer. For example, there's evidence of potentially diagnostic phonemes in some of the data, which is a whole other really cool line of study, since I typically think of phonemes as something you see in social communication. Obviously there's some sort of utility in hunting or it wouldn't exist, and I'm really curious about what that could be (and how we would figure it out! Shark cams on beaked whales, anyone?). But that's out of the scope of my project. So back to Matlab and PAMGuard I go! Lots of exciting stuff this week.

Posted by ejacobs at Jul 14, 2016.

I had to start over with my project (yay?) because the template that I built my story map on is still in beta version and therefore, it sucks. I literally could not customize anything and the limitations were too extreme for me to use. I started a new version, changing from the cascade template over to the journal styled story map. The visuals are slightly less appealing compared to the cascade design but in the grand scheme, it will be much better at conveying the message. When I restarted, I wanted to the content to be transferable to the CeNCOOS folks after I leave, so I had to make a separate account. However, the "free" account made it so I had to make other accounts such as youtube/picassa to store videos/ photos. I wanted to avoid that as there is a chance that the story map would not work if those sites were to change/go down. MBARI has an institutional account with ESRI/ArcGIS but the online division is apparently separate. I approached Todd from IS about the problem and he informed me to call ESRI to figure it out. Guess what they told me? They can't talk to me unless Todd puts in a ticket with them... great... A phone call to Todd got me nowhere as he was too busy to help. In the end, I just went with the Youtube/Picassa system.

On a different note, I was able to get some really good photo and video content for the story from my visit to Hog Island Oyster Company and speaking with the owners. I had envisioned a picture with 1/2 of the shot underwater showing oyster lines where the farmed oysters sit and the top 1/2 of the picture showing the restaurant/farm. However, arriving at the site, it was a different story because their lines were miles away and it was high tide. So I had improvise and borrowed some oysters to do the shot. Here's a shot of what it looks like.

The great news is that I already had most of my content so I was able to finish a first draft of it yesterday. Revisions are being made today and I will be showing my work around the office to get feedback. If any of you are bored and want to look at it, let me know!

Posted by desmond at Jul 14, 2016.

With each passing week, time seems to fly by ever faster... sigh...

Like others have expressed, Monday's tour of the aquarium was awesome and a great start to the week. In recent years, I became aware of Barbara Block's work, so visiting the tuna tanks was a real treat. I was also excited to visit the jellies husbandry room; in all my behind-the-scenes visits of the aquarium, I'd never had the chance to visit that room up until then. After the lead guy (forgive me for not remembering his name) gave the breakdown of the room and processes, I jumped on the chance to ask him a few questions that had been lingering in my mind since the Jellies Experience exhibit (e.g. the variations in sizes, numbers, and conditions of the blubber jellies was due to difficulties in breeding and captivity). Another interesting moment was watching the SORAC folks transport the surrogate otter and pup. While our guide was discussing the kelp tank, I noticed staff, dressed in the concealing ponchos and face masks, approaching the holding pen. My attention was fixated on what would happen next, so if I looked like I was staring off in la-la land during this part of the tour, now y'all know why.

As a bonus, Desmond's friend Taylor happened to be working that day, and he gave a small group of us a behind-the-scenes tour of the Tentacles exhibit. The spaces that the aquarists work in are pretty darned small, but they certainly make use of everything...the vibe is kind of like mom and pop pet store plus mad scientist. My favorite parts: peering over a holding tank of very curious juvenile stumpy cuttlefish and hi-fiving one of the giant Pacific octos!

The bulk of this week involved the Brewer cruise on the Western Flyer. We ventured out into rough waters to the jelly collecting fields. In simplest terms, jellies were captured at various depths and shot at with a Raman laser. Yep, shooting jellies with lasers, all in the name of science! Along with Matt, Peter Brewer,

Ed Peltzer, and Peter Walz could probably give you a more through (and correct) explanation, but from my understanding, the laser provides chemical and molecular information of the object being targeted. Brewer's team is especially interested in the properties of water inside gelatinous species (there's some magic going on inside those jellies and ctenophores!). As the only person that wasn't coming from a strict/heavy science background, it was truly amazing to witness first hand the collaboration between the science, engineering (ROV), and ship crews and teams. I did get the opportunity to fiddle with VARS, video recording dives and making screen grabs. I also discovered that the sleepiness that I often encounter on boats is just a manifestation of seasickness. I was pretty tired for the majority of the cruise, but didn't get nauseous; I felt even sleepier when out in rough waters. ¯_(?)_/¯

Unfortunately, our cruise was cut short. During yesterday (Weds) morning's dive, a critical component of the Raman laser became detached. We returned to shore in the evening for repairs, in the hopes of heading back out today. No dice. Last I heard, the team is hoping to have repairs completed and the laser ready to go for a day trip tomorrow. I may/may not go...while it's tempting to take advantage of any opportunity to spend time on an R/V and in a control room, I still have plenty to get done with my project!

I'm looking forward to next week, as I'll get a chance to chat with an MBNMS intern who is also focused on social media and communication. Hopefully, I'll also be able to get in on the MBA's weekly communications/media/marketing meeting. I've been eager to learn how their teams collaborate in developing and executing messages and information to the public.

Posted by jvalenzuela at Jul 14, 2016.

Busiest week of the internship so far. After a long day of prepping, last minute experimental design changes, and endless autoclaving on Monday, my partner and I arrived bright and early Tuesday morning for one of the longest days of my life. Spawning induction began at 8:00 am at which we began the protocol of temperature and chemical changes to collect our much needed gametes. Despite the assurance of our mentor on the success of the process, it was pretty nerve-wracking waiting for the abalone to spawn. But spawn they did

At this point, Aileen and I split ways. I started micropipetting sperm into eppendorf tubes with 1.5 mL of low/high pH seawater. They were exposed for 1 minute and then brought to the microscope for video. I did this one at a time for 12 samples (6 each of high/low) over the course of an hour. The protocol was a little shaky at first, as it took a few trials to get the optimal sperm concentration for video. But once I established a routine, the rest of the experiment went smoothly. I repeated the sampling process at two more time points throughout the day to also see the effect that gamete age has on sperm motility.

Now I have 72 videos of sperm that I need to analyze in ImageJ CASA, so it's time to get cracking!

Lots of fun things this week too. First awakenings, aquarium, bbq, a trip to Monterey Abalone farm (super cool), and a great seminar by John Benson on ecology of large carnivores at Hopkins.

Also, I saw a lot of interns helping out with Aileen's experiment. Big thanks to all!

Posted by tthisner at Jul 14, 2016.

Less than 4 weeks to go until we all present our work and it's definitely starting to feel like crunch time already. Although I have a pretty good idea of where my project will end up, it's still a bit stressful as my mentors continue to add new datasets to the mix. I have now added Acoustic Doppler Current Profiler (ADCP) data from the moorings to my analysis in an attempt to link the variability in the other parameters to current fluctuations since many of the PCA results for variables like temperature, salinity, and nutrients resemble each other even though conventional understanding of El Niño wouldn't necessarily predict that.
Trying to get to a place soon where I am no longer adding elements. Once I have completed all the PCA that I intend to do, the next step will be to correlate the resulting time series with different climate indices such at the Multivariate El Niño Index (MEI), the El Niño Modoki Index (EMI), North Pacific Gyre Oscillation (NPGO), and Pacific Decadal Oscillation (PDO).

In other news good work on the BBQ everyone, even people who did sign up for leadership roles really stepped up and made it a success. Thank you Drew, for helping out so much.

Also this week Alaina and I got to help fertilize some abalone eggs which was a cool (literally, it was freezing the seawater lab) break from our computer screens. Hope all the experiments go well, Aileen!

Posted by gchavez at Jul 15, 2016.

I will be first comment next week just you wait and see.

This week was actually really busy. Besides running around for the BBQ which was a success, I have been meeting with my mentor to go over more about my project. What I love about this project is that it is constantly evolving and I am always learning new ways to look at data and even new ways to write code! My mentor is super awesome too! Besides being a genius, she is super nice and she will take me through her thought processes and shows me how the data is constantly evolving when she finds a way to make her algorithms better, which is amazing to see. I so far have found some pretty interesting data and some of my figures may be in my mentor's proposal for next year! Momma I made it! Anyway, mine is always the smallest confluence, which I guess is a good thing because nothing is every really going wrong so there is never anything negative to report..Knock on wood...but I do not have any fancy pictures to post so mine never looks all that exciting but it is I promise!

Posted by asmith at Jul 15, 2016.

Man I keep getting later and later. Next week I'm setting an alarm. I've been fairly busy this week, and not just because of the BBQ. While we weren't able to make the library that converts XML schema into scala work, so we're adjusting the scope of the project. Instead of being a more in-depth production of part of the process, I'm aiming to have a complete end-to-end prototype. Instead of turning the full XML schema into scala, I'm going to write a functional subset of the schema by hand and prove that the new language works with that limited scope. Then it is simply a matter of extending the schema to make the language more complete. Towards that end, I've been writing an end-of-the-pipeline translator that takes the abstract syntax tree (the representation of all the relevant information) and produces a string of XML code as well as rewriting sections of the abstract syntax tree and the parser itself. I'm meeting with one of the LRAUV operators later today to go over some existing mission scripts to help wrap my head around what's going on.

In other news: BBQ was a blast. Perhaps too much watermelon? Also, despite having been to the aquarium countless times before, the tour on Monday was awesome! I've never seen any of the behind-the-scenes stuff before.

Posted by emeckler at Jul 15, 2016.

This week was the busiest one by far! The behind the scenes at the aquarium was so cool and I feel so lucky to have opportunities like that one, also it doesn't matter how many times I go to the aquarium, I never get bored of it!
The BBQ was a total success (all the people from my lab have thanked me for the food and the great job) so congratulations to all of us for the hard work!!
About my project, this week was so intense. We made a protocol for the big experiment that we have just finished right now about measuring micromonas alive with the Accuri and fixing samples for FCM (flow-cytometry) for 24 hours. So yes, I slept here at MBARI with one of my mentors and actually it has been a great experience. I'm so so tired right now but it was worth it because I had more time with my mentor so now I know her a little bit better than before, also I realized how hard is to work on experiments like this one but how great it's when you have someone who can helps you with it, team work!!
On Wednesday we saw in the Accuri some spots that could have been micromonas eating!! But after this whole 24h experiments we're thinking that the percent of micromonas that are supposed to be eating maybe it's to low so we can't confirm that they're actually eating. We think that maybe it's just a representation of the beads sticking on micromonas, but we still need some more time to have real conclusions.
I feel so lucky to have new experiences every week!!

Posted by mariacl at Jul 15, 2016.

14-June-2012

This page last changed on May 20, 2016 by kgomes.

I am testing this

15-July-2010

This page last changed on May 20, 2016 by kgomes.

16-July-2015

This page last changed on May 20, 2016 by kgomes.

Speaking to the TCLers at the MBA was such a great experience and I hope to continue public speaking – it's so rewarding! Aside from that great start to the week, I have been working on my experimental setup for my abalone project. Starting on the 16th, I will be in the lab practically all hours of the day to sample and take AWESOME pictures of my developing abalone! Looking forward to finishing up this part of my project and begin data analysis!

16-June-2011

This page last changed on May 20, 2016 by kgomes.

Please leave your notes here (what did you do this week and what will you do next week)?

16-June-2016

This page last changed on Jun 17, 2016 by nraymond.

Click on the AD!Current profile.png!D comments box below to post your update

Comments

Other than the Sharks losing the Stanley Cup (on my birthday too, boo hoo), it's been another awesome, busy, and overwhelming-in-a-good-way week!

My mentor, Susan, was away on Monday's Carson cruise, so some of you may have seen/met her. I really, really, REALLY wanted to go, as I fell in love with the adorabilis after it made its rounds in the news last year. But the decision of first dibs going to folks who weren't already signed up for any cruises made sense. Nonetheless, I am a tad envious of you guys!

I've been doing a ton of researching and reading, gathering reference information and assets as I slowly, but surely, put together content for my Southern Ocean "webpage." To expand a bit more on last week's update, I'll be using Esri's ArcGIS Story Map Journal for my project: https://storymaps.arcgis.com/en/app-list/map-journal/ (This example on monarch butterflies is along the lines of what I'll be creating: http://fws.maps.arcgis.com/apps/MapJournal/index.html?appid=9d9538afbf6b4139819762ee11b143a0 – instead of monarch butterfly stuff, I'll be putting together Southern Ocean/MBARI/SOCCOM/climate change/biogeochemistry stuff.) My goal is to have a solid outline developed before the end of the week, so that I can fully schedule out and prioritize my content creation tasks.

So, this is the second week in a row that I've tried to multitask watching/listening to livestream presentations and work on my project. I wasn't able to catch much of last week's CHOW (thank goodness for video recordings!), and I missed most of this week's DOEST (ditto)...but I did manage to watch Anela Choy's awesome presentation on food webs--I had no idea that MBARIans were researching the effects of microplastics! It's a subject I've been intrigued with in recent years, so I'm excited about the work being done here in analyzing the repercussions of anthropogenic debris.

Misc. tidbits...
— Wednesday's BBQ hit the spot, but I still wound up daydreaming about spam musubi, lomi-lomi, and poi. Perhaps our intern BBQ could be luau version 2.0?
— Nick has been proactive in rallying the interns for after-work activities. Alaina and I are the current champs of the dorm's pool table (see Dallas' confluence report), so watch out!
— Finding Dory comes out this week, and the movie theater is conveniently down the road from our dorms—let's go!

Posted by jvalenzuela at Jun 16, 2016.

This week I went over lab safety with Kris Walz and discussed our plans for my research. I've learned a lot about qPCR and Next Generation Sequencing. We have determined that I'll be focusing on the mitochondrial gene cytochrome c oxidase subunit 1 (CO1) as a means to identify species of zooplankton present in the water column. For my REU I was required to produce a project timeline and a proposal, Kris & Dr. Chavez helped me fill out that timeline and of course offered their help with my proposal. Today I'll be working with the PCR plates that we prepared on Tuesday and enhancing my knowledge of PCR protocols etc.

Posted by bcorbett at Jun 16, 2016.

So far I've had a great week! Yesterday I went on the Rachel Carson for a cruise to the MARS site, where we retrieved a tripod that was being tested there. I had such a good time! We saw whales, dolphins, about 40 albatross, and a huge mola mola! I really enjoyed observing everything that was done on the cruise, from deploying the ROV, to watching the live footage in the control room. I spent Monday and Tuesday learning how to use the digital lab equipment so that I could start looking at ROV video footage, as opposed to the tripod imagery I was looking at last week. I also met with my mentors to decide exactly what I would be researching concerning Echinocrepis, and what measurements I would be taking. I will be focusing on the species density and biomass and how that relates to area. I am measuring individuals' width and length, by using the ROV footage and VARS software. I will be doing this for two separate time periods, so that I can later compare them to each other to assess whether changes have occurred. I am also measuring and counting two other species of urchin, Cystocrepis setigera

and Cystochinus loveni, to potentially have as comparisons in my study. I am enjoying everything this internship has to offer so far and I am excited for what is to come!

Posted by dfabian at Jun 16, 2016.

It's so crazy that week two has already gone by! My mentor finally returned and it was so cool to meet her! We got to talking about my project and I am getting a better understanding of the data and what the specifics of my project will be, so once I can narrow it down then I will let you guys know! The DOEST thing was so cool, and I loved how interactive everyone was, and how willing the fancy Board Members were to talk to us!

I will be using MatLab for my project and it has actually been going well despite my reservations going into this because I usually work with R, so that is exciting!

I am looking forward to the rest of the summer, but sad to see that it is already going by so fast!

Posted by asmith at Jun 16, 2016.

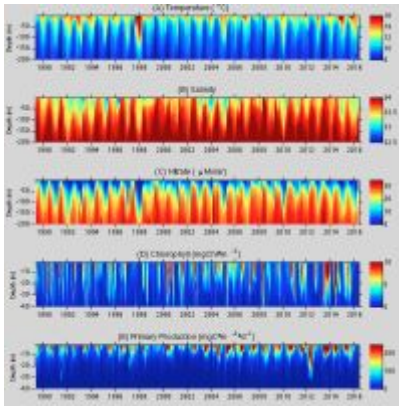
another fantastic week at MBARI in the books, I hope you are all finding a comfort zone here. I had a blast during DOEST, both hearing talks and getting to know some the board members I had not met before. Going on the walking tour was a lot of fun because I got to here the mini presentations on the the wet lab, the power buoy, the paragon, the shark tag, and the video lab, as well as have some great conversations with a few of the board members.

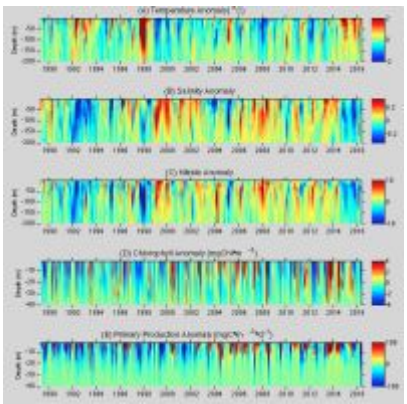
I was supposed to have gone to sea again yesterday but was kept on shore by a Camp-sealab, a group of about 30 middle schoolers at MLML. While I hate to miss the opportunity to go out to sea, I had a great time talking to them about marine science, physical oceanography and the lab. We also got to dissect a humbolt squid, which was something I have never done before.

My project work is coming along as well, I've written most of the routines for doing the harmonics, and spectral analysis, but I am still working on how to deal with a collection platform that is moving around in space (this is a novel approach to physical oceanography as far as I am aware).

Posted by dburrier at Jun 16, 2016.

This week has been a lot of MatLab learning for me. I have been working with Reiko Michisaki, a senior research technician, to learn how to access ("query") data from MBARI's massive archives and then visualize the time series and calculate the associated anomalies I will be working with this summer. That in and of itself was a huge accomplishment for me as I had never touch MatLab before. For now I am focusing on the parameters of temperature, salinity, nitrate, chlorophyll, and primary production-the mainstays of the data collected on the CTD cruises-at mooring 1 (M1). There are a lot of interesting aspects of change to analyze and tons of different papers that would be worth producing just from this dataset but as my research question takes shape I am preparing to compare the 1997-98 El Niño and the 15-16 El Niño to one another. In doing this I will also look at other distinctive periods other than the two El Niños --the warm years preceding 97-98, the relatively cool periods after, and the so-called "blob" of 14-15 and compare the climatologies produced when you give each of these events their own treatment





As for non-project things it was really cool to be here for DOEST! As "sweepers" on the walking tours we got to hear about a lot of cool things that people are working on: more about the shark cam, the abalone/crab/whelk/mussel experiments (Woo Aileen and Tiffany) going on in the seawater lab, the power buoy, the wave glider...awesome!

Posted by gchavez at Jun 16, 2016.

Spent this week laying the groundwork for what's to come in my project. First, there's the webpage interface. I've never worked with web design before, so I'm reading up on how to make a page functional using a scala-to-javascript API and how to use a css file to style the page. The webpage will allow operators to edit a file online (like they can do with the current system). Additionally, the parsing mechanic needs ironing out before worrying about the specific syntax of the new language. I worked out a rough class hierarchy for the XML mission schema to outline how things are nested in mission scripts. I now need to integrate this class structure into the parsing system with a watered down, very-much-subject-to-change syntax. Since I've never done this kind of software development before, I'm also learning how to automate testing, so I don't have to manually check a wide range of scenarios every time I make a little change in the code.
Yesterday I spent them morning at the Stevenson lower/middle school with Nick, Matt, and George talking to teachers about how to incorporate STEM into lower/middle school education, which was very interesting. BBQ was a good time! Being outside is always a good thing.

Posted by emeckler at Jun 16, 2016.

This week was spent further refining what I'll be doing for the next 8 weeks in addition to doing some prep for our cruise next Thursday.
Peter Walz and I transferred the laser head from the immersion probe to a larger housing with a focal point further from the aperture (so we can focus on jellies inside our D-sampler, whereas the other probe has a focal point just outside the aperture that can't handle a specimen inside the sampler), buttoned up the housing for the rest of the system, pulled a vacuum on both pieces of equipment, and ran a quick calibration routine to make sure everything was in working order.
Ed and I have been working on some more complicated post-processing for the spectra we have already collected, developing a peak detection algorithm that can handle the background fluorescence we find in many of our samples. Previously they had been normalizing their difference spectra using the water peaks, but now Peter Brewer would like to look into the salinity of creatures, and also possibly at the gelled modes of water inside jellies. Because of this, it no longer makes sense to use the old normalization technique, so now we are attempting a simultaneous fit involving a linear combination of five gaussians and a term to account for background fluorescence. The next big challenge is to find out what form this background term should take (possible candidates right now include constant, linear, quadratic, exponential, or some combination of these) to get the most accurate predictions for the peak centroids while also minimizing our error. Once we have figured this out, we can use a ratio of two of the peaks to determine the salinity, and possibly find a way to determine what (if any) shift we find in centroids between the gelled water and liquid water to find what kind of processes the jellies use to hold their shape.

Posted by mwoj at Jun 16, 2016.

Coming to you live from the Rachel Carson! This ship has wifi? It's crazy. My last two days have been pretty much just setting up and figuring out new software. I think my project is going to be comparing different methods of click detection so later they can automate identification, which is going to mean learning about a lot of different programs. It's funny, some of the papers I am supposed to read are the same ones I cited in my senior thesis--the work I'm going to be doing here builds on what I learned from the lab I worked in at UCSD, which is really cool. I'm going to have a pretty comprehensive view, by the time I am done here.

The Rachel Carson is so cool! Getting to see an ROV in real life is so surreal. We are inspecting cables at the MARS observatory, and we actually looked at the hydrophone collecting the data I'm working on for my project. I'm really glad I got to come on the cruise today!

The only other update I have for the week is that I got to meet Sal Jorgensen and Thom Maughan from Project White Shark and I am still hard-core fangirling over them. Got to meet two scientists I strongly admire on Tuesday, hanging out on a boat with an ROV on Thursday... My first week has shaped up very nicely.

Posted by ejacobs at Jun 16, 2016.

FROM DALLAS - (posted in week 1) This week has been very exciting for me, so I'm posting my confluence update a day early (I'll be gone tomorrow). On Monday, I had the privilege of joining Dr. Stephanie Bush on the hunt for the opisthoteuthis sp. flapjack octopus! I was told to not get my hopes up as they are not always successful, but opisthoteuthis was the first thing we saw as the ROV hit the bottom. The first 30 minutes were really exciting and then the next 8 hours of sea sickness made the trip a bit less fun, but I had a blast and I'm really glad I went. Tuesday was really interesting, since I'm ahead

of schedule on my project, I got to sit in on the presentations during the DOEST board meeting. I was able to gain a better working knowledge of my own project and the role our project plays in the future of MBARI. I was also happy to finally talk to someone in my own field, Microbiology and Clinical Laboratory Science (Dr. Norman Pace). Finally, on Thursday I get to go to SLAC and tour the particle accelerator lab and make contact with other STAR members. I was really excited to nerd out this summer, but this week has been exceptionally geeky. (FYI- Jen and Alaina are pool sharks, proceed with caution)

Posted by mage at Jun 16, 2016.

FROM TIFFANY - posted in week 1
This Monday I had the pleasure of being invited on the Rachel Carson to seek out opisthoteuthis sp. (flapjack/adorabilis octopus). Getting a chance to see the MB Aquarium folks in action/behind the scenes was such a memorable life moment as I have gone to that aquarium since I was a little kid. Such a great crew, group of scientists and fellow interns to talk to and learn from. Seeing the ROV vacuum arm collect benthic creatures was too awesome. Maria took a great video of flapjack if anyone wants to see.

On the work side of things, I have just been continuing to prepare for my experiment. Aileen and I purchased 3 M/F abalone from Davenport Abalone Farm and our mentor instructed us in abalone husbandry so that we can keep our animals happy until our individual experiments. Excited to continue!

Posted by mage at Jun 16, 2016.

FROM AILEEN - inserted into the top box instead of comments
Nothing really exciting happened for me this week except maybe lunch at Phil's Fish Market and DOEST, but it definitely is starting to get busy. I've looked for more articles to read and I've been pushing myself to understand how to use R. I've been told that it's a really simple program to use but without any knowledge on coding it's been a little difficult. I'm really glad that so many people have offered to help me learn it though!

The second week is about to end and I am starting to feel the pressure already;two weeks went by pretty quickly and it won't be long until we're presenting our research. I'm hoping by the end of this week that I will narrow down my potential research questions to no more than two so I can start planning the methods and gathering supplies.

Posted by mage at Jun 16, 2016.

This week has been a major learning week for me as I come to understand how CeNCOOS actually operates. We get our money externally so we have a large governing board that oversees our organization and the 50 or so PIs, industry and policymakers. We had a conference call with one of the newest board members and the presentation had more acronyms than I have ever seen but my supervisor here did a great job explaining what each of them stood for. After the presentation, I realized that without the acronyms, their powerpoint would be cluttered with tons of words so I completely understand why they do it but it is going to take a while to get them straight.

For the remainder of the week, I will be working on writing an article that talks about a project that CeNCOOS and one of its PIs are currently involved in at Humboldt Bay. They installed a new feature on a monitoring network that allows real time updates via satellite every 2 minutes as opposed to having a technician download and upload the data every 6 months. This project involves the Wiyot Tribe and hopefully if this project goes accordingly, we can get more involved with native communities that care about the stewardship of the land as much as we do. Next week, my mentor and I will outline my main deliverable for the summer - a large piece on ocean acidification, the players involved, what is at stake and how CeNCOOS' monitoring system can help policymakers and aquaculture.

Posted by desmond at Jun 16, 2016.

I can't believe it's nearly the end of week 2, this is going so fast!!!!
This week has been even better than the first one. On Monday I went with Tiffany, Desmond and Dallas to an incredible cruise on the Rachel Carson looking for some dumbo octopus (the most adorable creatures ever!!) and I really enjoyed it. They told us that they weren't 100% sure if we will find some octopus, but fortunately the first thing we saw was a little one!!! It's incredible how they work and how the ROVs ventana works, they are so patient and they really worked hard.
After that incredible experience, on Tuesday I started to work by myself and started feeling like part of the lab and useful. What I have been doing this week is transferring my cultures of micromonas to a different media (the one that we used to use is BATS which is sea water that they get from the sea, and then we tried to used a different media called ASW which is sea water that they made here at the lab) and measuring them to see if they're growing or not.

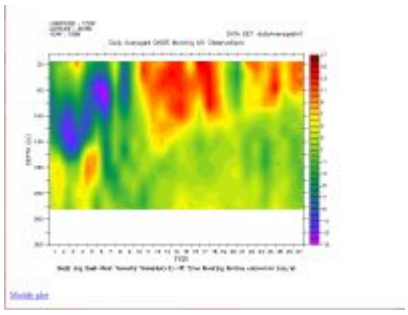
Usually they grow in the ASW media but this time they didn't and we think that maybe we did something wrong while doing the media. So after that, we transfer the cultures from the old ones to a new ones with the old media (BATS) and tomorrow we'll see if they are happy again or not! I'm so happy with everyone in my lab and I really like what we're doing!!!!

The DOEST thing was so good and I really like to see how boards members wanted to talk to us about what they do and what we think we wanna do in the future.
Also the BBQ were so good!!!

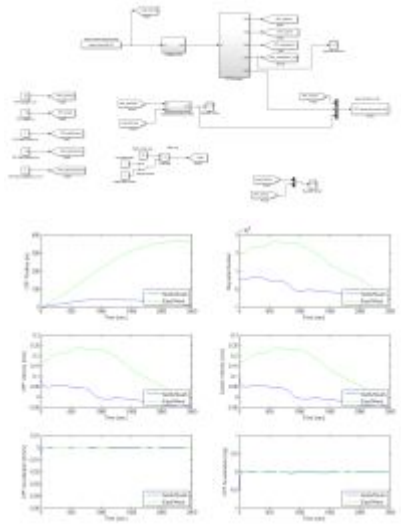
Posted by mariacl at Jun 16, 2016.

This week was spent developing a simulation model to predict the position, velocity, and acceleration of the float as it drifted in the underwater currents. This is important because we need to know the range of accelerations that we can expect to measure to ensure that our sensor will be sensitive enough to detect the changes in acceleration. Using real data collected from a moored buoy in Monterey Bay, M1, I was able to download a CSV file of underwater current profiles from February 1998 and use this information as the input to my model. This particular data was chosen because it had strong underwater currents.

Since the float has no active propulsion or steering, the only force acting on the float is caused by hydrodynamic drag. Assuming that the physical shape of the float can be modeled as a cylinder (pretty good assumption) it was possible to calculate the drag force acting on the float as it moved through the water at different velocities. Here we are assuming that the drag force is proportional to the square of the velocity of the object, which is why it was important to use real data about the underwater currents in Monterey. The historical data was obtained from the MBARI Live Access to DATA website: http://dods.mbari.org/lasOASIS/main.pl??&.



The rest of the week was spent developing the model in Simulink and testing the model to verify that the outputs were correct. Once complete, a set of plots was created so that we could look at all the data together. Based on this work, it looks like the range of expected accelerations that we need to detect will be from 0.05 to - 0.05 m/s/s. These are very small accelerations, and the sensor that we are currently using may not be sensitive enough to detect this without post processing and filtering of the data.



The next step (plans for next week) is to start testing the actual IMU sensor to characterize the noise profile and determine the smallest possible acceleration that we will be able to detect. To accomplish this, we are using a computer controlled moving table in the lab. We will mount the sensor to the table and

accelerate the table very slowly and read the output from the IMU. By testing a range of acceleration, we can determine the sensitivity and noise profile of the sensor and compare this with the results from the dynamic simulation.

Bonus - on Thursday I went on the Rachel Carson for an all day cruise and was able to fly the ROV Ventana for a bit. SUPER COOL!

Posted by nraymond at Jun 17, 2016.

Hi all,

Apologies for this very late post, last Thursday I was busy in the Flyer control room searching for and collecting invertebrates several hundred meters below Monterey Bay's water surface, and I've been delayed in posting this since.

Thursday at 6pm one of the most exciting and challenging trips of my life came to a close as the Western Flyer, its incredible crew, the Haddock lab (+ intern), and visiting scientists came into port. Here is a very brief documentation of this adventure from my perspective, but as it is brief, please feel free to ask me about it in person - I will enthusiastically describe every detail of my experience!

Before I boarded the Flyer last Friday, I felt a mix of overwhelming excitement and apprehension. Not only was this my first overnight trip on a boat, but I embarked on it with a lab group I had only become acquainted with for four days. There were still plenty of unknowns and first impressions to make.

Shortly before this trip, ROV engineers and Dr. Steve Haddock developed a new videocamera for the ROV capable of detecting and recording bioluminescence in the lightless deep sea environment, and this cruise marked its first official research use. Not only did the videocamera work perfectly, but we recorded some truly impressive displays of bioluminescence.

Doc Ricketts was deployed every day we were at sea after Friday, collecting samples for everyone's projects and supplying the video lab with 5 days worth of footage. I was able to sit in the ROV control room and operate the camera, which was fun because everyone in the room was a deep sea animal expert, and could give the scientific name of nearly everything that passed the video screens. I ended up learning a ton about the animals that exist at depth.

Since I am studying bioluminescence with light-sensitive animals and equipment, I spent quite a bit of time becoming familiar with running experiments in a small, completely dark room on a constantly rocking ship. It was definitely challenging, but I collected some great data and was able to chemically stimulate bioluminescence from doliolid (tunicates) and radiolarian photoproteins. The experiments I ran this week will serve as preliminary research for what I'll be doing during the next eight weeks (yay!).

Probably one of the best parts about the trip was the people I had the opportunity to get to know. For one, the Haddock lab is an awesome group of friendly and accomplished professionals who will no doubt foster my growth as a person and scientist (lucky me!). Additionally, the crew was a talented group of friendly individuals, and our chef was fantastic. I heard many great stories and learned something new from almost everyone on the ship.

So, if I could do it all over again or recommend the experience to anyone, I definitely would. I'm grateful to the Haddock lab, MBARI, and the internship coordinators for allowing me to be apart of this amazing experience!

Posted by cpayne at Jun 23, 2016.

17-July-2014

This page last changed on May 20, 2016 by kgomes.

I was glad to not have gotten seasick on the Rachel Carson this Monday -- staring at the horizon really does help. The highlight of the day was seeing both Pacific whitesided dolphins and right whale dolphins swimming in front of the boat!

Back on shore, I'm excited that my code generates data. It'll be exciting to run lots of data through it to see longterm trends in ocean activity.

17-June-2010

This page last changed on May 20, 2016 by kgomes.

To add your update, add a comment. Things to put in your update: What you did this week, what you think you are going to do next week, what is going well or isn't going well and, for this first update, what you would like to get from your 10 weeks here at MBARI.

24-June-2010

This page last changed on May 20, 2016 by kgomes.

-

01-July-2010

This page last changed on May 20, 2016 by kgomes.

-

18-July-2013

This page last changed on May 20, 2016 by kgomes.

18-June-2015

This page last changed on May 20, 2016 by kgomes.

19-July-2012

This page last changed on May 20, 2016 by kgomes.

19-June-2014

This page last changed on May 20, 2016 by kgomes.

2-July-2015

This page last changed on May 20, 2016 by kgomes.

Just add comment below for your update

20-June-2013

This page last changed on May 20, 2016 by kgomes.

21-July-2011

This page last changed on May 20, 2016 by kgomes.

21-July-2015

This page last changed on Jun 16, 2016 by mage.

click on the ADD COMMMENT button below to post your update

Comments

Began working on a new problem this week. What would be nice is if there was one algorithm that we could apply to a handful of filters that would be able to identify everything equally well. As you know, biology doesn't make things very similar except for a few handful of interesting mimics. Therefore, one thing that may work for the detection of one species may not work for another. In fact, life stages may throw off detection within species. This week I was able to show how different adjustments to filters could isolate and ID the organisms we were missing and prove that one size filters do not fit all. The beginning of the week we tried Hough-based tracking to get the other half of scotoplanes (his feet have been far more interesting to the computer than the rest of his body)

Before 

After 

The next obstacle is making the adolescent stage of echinocrepis stand out. the young are white and the old are black, both work well with contrast. The adolescent stage is a horrible sand colored monstrosity that blends into the background.
I have finished my Intro, Methods and Materials, and lesson plan. Im moving into the results and discussion soon. Going to be done in no time.

Posted by dhollis at Jul 21, 2016.

This week has been moderately slow. I've been working on RStudio Tutorials and getting acquainted with MBARI's banzai pipeline. Unfortunately there was a hiccup with the DNA sequences & primers sent to Stanford. The forward, index and reverse primers were all correct and yet there was some problem where they could not be sequenced, Kris believes its a mistake on Stanford's part in which case they will pay for another kit and hopefully it will not take too long. Kayaking on Monday was quite fun, I did not suck as much as last time. I'm helping out with the MBON bbq next week even though I won't be there for the actual event because NASA!!! The seminar yesterday was super cool and it was nice to see a young woman being super successful, it gives me hope (also I think her shrimp shirt was FIRE). The end of the program is coming up quick so I'm also playing with paper ideas, although having the proposal for the REU program is a big help to getting started. Still though, the end of the program means the end of seeing all MBARI humans and thats saddening. BUT STILL 4.5 weeks left.

Posted by bcorbett at Jul 21, 2016.

It has been a moderately frustrating week! I received feedback from my mentor and unfortunately, we have different approaches when it comes to our way of communicating scientific ideas. The feedback word document I received looked the first essay you wrote to your English teach in middle school - it was 90% red marks. It was definitely disheartening to see.

Going through the revisions that he wanted me to make further illustrated why it is important for me to create this story map. While there were many great suggestions that he made regarding phrasing, there were parts that he wanted me to elaborate on that honestly no one would care to read in the real world. Acronym soup and discussion about who's funding who and why does not cater towards a general audience as they are likely to read my story for 1 minute or less.

Now comes the part where I will negotiate with him regarding what is important and what isn't. Unfortunately, he is on vacation this week and I do not want to bother him while he is on vacation so hopefully the story will be done next week so that I can start on the next one.

Posted by desmond at Jul 21, 2016.

Last Thursday, after a nearly 12-hour process, I am happy to say I successfully regenerated radiolarian photoproteins (for both shallow- and deep-water species). This is exciting not only because it hasn't been done before, but also because I now have a significantly greater amount of material to work with (if you take care of your photoproteins/apo-photoproteins, i.e. keep them frozen, you can often regenerate photoproteins several times). This week, with my newly generated material, I have: determined that the optimal pH for the biolum reaction in a Collozoum sp. (shallow-water rad) is 8.5, found that Collozoum (and even Tuscaretta - deep-sea rad) photoproteins are stable even after being left at room temperature for 2 hours, and that filtering out excess, unwanted calcium ions from a solution of apo-photoprotein is a pain in the butt (which is a very important step in regeneration). While I have had small victories, it is apparent that this project has a long, long way to go, so let's see how far I can get by the end of this internship!

In the meantime, I get to go out on the Paragon today for a mini-cruise on the bay! Some of my lab mates are diving for samples, so I'm coming along for the ride (and if I'm lucky snag some samples for myself). If you're outside any time between 10:30-11am, you'll be able to spot us by our "Life Aquatic"-inspired headwear: red beanies!

Posted by cpayne at Jul 21, 2016.

I've spent the majority of this week learning about the engineering side of my project, the parts I've just kind of taken for granted up to now but have decided I need to fully understand to take proper advantage of. Not that I have any regrets, but I would say that an ecology degree has not quite set me up for an easy time understanding all of this. I'm up for the challenge, though.

At this point I think I have a pretty good grasp on Fourier transforms, a moderately good grasp on Welch's Power Spectral Density Estimates, and I can see an understanding of Daubechies wavelets in my future. I am a very visual learner, I've come to find, which makes the textbooks and webpages and most resources really hard for me to understand without graphs and other visual representations. Engineers don't have enough pictures in their books, I'm telling you! Jokes aside, though, I'm feeling pretty good about the progress I've made towards understanding these concepts since I had virtually no useful background in any of these things. Representations of amplitude, frequency, time, scale, translation- they're all very abstract, and half the battle is wrapping my head around how to think about them in terms of actual physical sound waves.

I went to the Moss Landing Marine Lab Library this morning to get a book from the joint MBARI library, and they were very nice! Moss Landing Marine Lab is also very beautiful. The librarian, Katie, helped me find a book that she thought would be helpful to me, so now I have a very intimidating-looking book called "An Introduction to Random Vibrations, Spectral, & Wavelet Analysis." I'm going to understand this stuff if it's the last thing I do!

I also have a PAMGuard classifier I'm feeling pretty good about! After looking at the Welch's Power Spectral Density Estimates and tweaking my frequency parameters appropriately (shoutout again to Nick for being my Matlab Signal Processing/Engineering consult! He's very good at breaking things down so I can understand them without a master's degree in engineering, and I really appreciate the help) I'm detecting what I believe is about half the beaked whale clicks in my file of interest, which might not sound like a big deal, but considering when I started it didn't detect almost any, it's an accomplishment that I'm feeling good about. Now I'm going to test it on some other files to make sure I've not specified it too much to this file, but I got my parameters from looking at the spectral density estimates from a

variety of files and all of them seemed pretty consistent. I also now believe that I understand what every parameter PAMGuard uses is actually looking at and doing, so now I know why expanding the frequency bands for some of the parameters ended up hurting me more than helping. It's funny how much easier it is to fix things when you understand how they work in the first place.

In a super fun throwback, yesterday my computer broke again. It was being very laggy and the mouse wasn't showing up, so I made the lethal mistake of trying to reboot it- it's been just long enough that I forgot I wasn't supposed to do that, because when I booted it back up there was a Windows error (I have a Mac, so it's particularly awkward). Sheldon, however, fixed it in about 20 minutes because he is the best, and now I'm back in business. I was almost nostalgic for my first two weeks at MBARI, while sitting under my desk trying to figure out which phone jack to plug my ethernet cable into to make the really old computer in my office boot up so I could keep working while Sheldon was fixing my laptop.

I've also hammered out a structure for my final paper, which I think I'm going to try to start next week. My mentors are both on board and I will (hopefully) have some useful data to present, so hold on to your hats and prepare for some really exciting spreadsheets! (I'm going to slip some whale sounds in there too, so hopefully the audience won't fall completely asleep!)

Posted by ejacobs at Jul 21, 2016.

Another fun week! Its always a blast to get out on the slough, I hope that everyone enjoyed that. I also really like the speaker this week. I'm really excited about the explorer program, it is so refreshing to see projects like that in our current funding climate.

Its definitely starting to feel like the home stretch. My analysis is going very well, and its time to start making pretty visuals for the talk. I have a general idea where I'm going with it, and I would like to have a head start on what I know I always run out of time on. As far as nuts and bolts go, I need to take the syslog from the rover(which is like a logbook of everything the rover does) and pull out the CM data raw so that I can plug it into matlab a lot easier.

Posted by dburrier at Jul 21, 2016.

I finally finished with my VARS measurements last week! This week I have been doing data analysis and running stats on the data to look for patterns. I am currently creating knotched box plots in order to compare pulses, as well as size class and color. This will allow me to assess whether size distribution of 1 pulse or 1 color is significantly different from the others. I am also working on creating a cumulative sizing curve for the data.

After I have finished doing that, I will be working on spatial statistics in order to see whether individuals are clumped, random, etc. In order to do this I will be creating 50 meter bins for each transect so that I can compare the bins within each transect. I plan on mapping the transects on GIS, so that I can visualize where each of the pulses/transects are located in reference to one another. This will be useful when running the spatial statistics because if there are patterns within the bins of each transect, I can reference the bin locations on the GIS map in order to figure out what is occurring in that particular area.

Lastly, I am taking 10% of the images (best quality) that I used for measuring individuals in VARS and running them through a separate software program called Solidworks that has an auto-trace tool that automatically creates a 2D sketch from an image that you can analyze. It also calculates the area of the image, which will allow me to compare my VARS measurements with the Solidworks measurements, so I can account for error in my methods.

Posted by dfabian at Jul 21, 2016.

Week 7. Reflecting on the progress I've made with coding skills. I had never touched MatLab before week 1 and spent most of my time pestering my mentors for help with every little thing and and now I spend most of my time at my computer and they come to ME to ask for updates on what I'm doing  . Still working up all the datasets I have amassed to perform all of the mathematical analyses I want to do. Most of my time is spent figuring out the best way to create "perfect" datasets (no gaps or "NaNs") out of NaN-riddled datasets that reflect sporadic sampling, instrument errors, inconsistent sampling depths, etc, and chopping up the results every which way--monthly averages! No, bi-monthly averages! No, daily! In addition to performing PCA on all of the different parameters, I am working on correlating the resulting time series to the Multivariate ENSO Index, the El Niño Modoki Index, the North Pacific Gyre Oscillation, and the Pacific Decadal Oscillation to see which of these indices can best explain the variability we see over time in our data. Once I have done that and gone back to "clean up" the other

figures I have produced through the preceding weeks, it will be time to really interpret the results, make some inferences as to what processes are driving the changes and what I think will happen as time goes on (ie. start writing the paper and preparing for the presentation). Work, work, work, work, work, work. He say me have to...

Posted by gchavez at Jul 21, 2016.

This week has been actually super productive. I have hammered out the direction I want to go in with my project which is dominance between diatoms, autotrophic dinos and heterotrophic dinos (proxies) in space and time. So basically, I will be looking at when and where these species are dominating in comparison to each other, and then seeing what the physical conditions of the Bay are at the time (i.e. stratification, nitrate and oxygen levels, thermocline depth, bathymetry, upwelling, and SST).

I have learned a lot from my mentor in regards to MatLab, code writing, and the scientific process. Part of what I have to do as well is justifying my parameters, like showing why I decided to set my depths to find the mean proxy values over (as to not skew my data) to 40 meters rather than 30 meters for example. Which is something I do not think about because I just do it, but someone could ask during my presentation and I would not be able to answer the question fully!

Posted by asmith at Jul 21, 2016.

Spent part of this week figuring out what went wrong on the flyer cruise last week, and it turns out we didn't actually break both spares (the second time at least) on the flyer, but just one of them. We did, however, discover that the connection between the laser and the fiber cable is incredibly finicky which is why we thought it had broken last week. All a moot point now though, because we ended up breaking the spare shortly after discovering just how sensitive the port alignment is. We have plans to talk with the manufacturer and see if maybe it's the port that's messed up and not the fiber connector, and also to investigate whether changing over to a different port system makes sense.

We have also essentially given up on doing a full fit of the five-peak stretching regime in seawater, since we can get fits with wildly different parameters that all look just as correct. We briefly discussed investigating an isobestic point in the regime instead, but decided that was silly once we realized there's no way for the math to work out between five peaks. Instead, I might look at the bending regime (which only has two peaks, and therefore an isobestic point may exist) and see if there is a well defined temperature dependence there.

Posted by mwoj at Jul 21, 2016.

Almost on time this week! I've been pretty under the weather and have found it hard to get work done. After my update last week, I finished implementing a first pass at the translator. It takes the abstract syntax tree (a data structure that represents all the commands the user is trying to communicate) and produces XML code. Currently, this XML code does not comply with the schemas to which actual mission scripts have to comply. This is okay, as even a working prototype on a subset of the schema would be really cool. Other good news: our meeting with the LRAUV operator went very well! He was impressed with what I had so far which honestly was surprising. I had misunderstood some key aspects of the mission scripts, which he corrected me on (for example, "Behavior" constructs are written in a lower-level language and are not defined in the mission scripts, but rather called and run. This wasn't clear from reading the code). He also reminded me that the online interface they use to run missions also has a "virtual" mission option, so I could run produced code that way on a virtual LRAUV just to see what it does. While this isn't necessarily helpful for the project (I verify everything at the code level), it would make a cool visual aid for the seminar, as I could show an actual mission and the same mission produced from my new language running side-by-side (ideally they would, in fact, do the same thing).

I'm slowly adding new features and thinking about how I want to handle the misconceptions I had with how the scripts work. Some new features that I wouldn't have thought would be tricky are turning out to be challenging, which is always frustrating -- especially when it requires restructuring large sections of the code. It will get done!

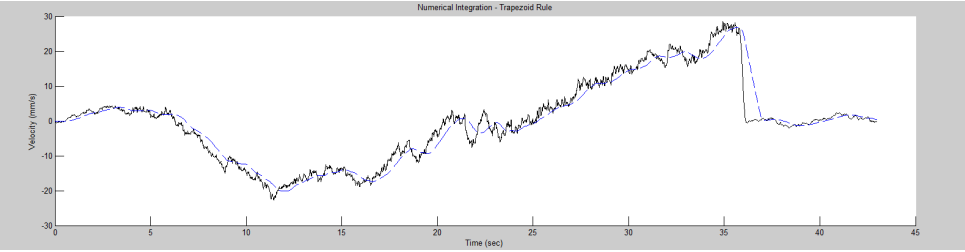
Kayaking was fun! Despite living in Monterey, I had never kayaked up in the slough. Hope everybody has a good weekend!

Posted by emeckler at Jul 21, 2016.

After weeks of battling with C#, I finally have the sensor reliably reading data at 100 Hz and saving all the acceleration values to the SD card. Once the data is imported into Matlab, I remove the DC offset

from the signal and then apply a moving average filter to smooth out the noise. Using Welch's method it is possible to look at the spectral power density of the filtered and unfiltered signal to see a reduction in noise and identify that all the signals we are interested in are below 2 Hz. Finally, I apply a numerical integrations scheme using the trapezoid rule to approximate the velocity profile measured while the sensor was moving on the linear translation stage. In the image below, the linear translation stage was programmed to have a constant acceleration of 1 mm/sec^2 and reaches a terminal velocity of 25 mm/sec before decelerating. The black line is the velocity profile obtained from the raw data, and the blue is the estimation of the velocity once the data has been smoothed (it is looking good!).

Next I will program longer motion paths so that we can collect up to 1000 seconds of data and start to access the error in the sensor over longer sampling times.



Posted by nraymond at Jul 21, 2016.

I think I'm the last one writing this but that means that I had been super busy that I didn't even had enough time to write it!

During this week I have been super busy but it had been less hard than the last one. I have been collecting the data that we get during the 24h experiment in different files, making some graphs and trying to understand what's going on with micromonas. I'm also preparing a little powerpoint about what I have been doing during this month using the data that I have been organizing because every Monday I have a meeting with the people form my lab, and next Monday we need to explain how are our projects going. I'm a little bit nervous about it but I know this would help me to get more confident for the symposium. Also, everyone in my lab knows something about algae and they're super smart so I'm sure they will help me a lot making questions or giving me advice about how to make a great presentation for all of you in a few weeks.

After all this work, we can't confirm that micromonas is eating because the percent of micromonas + beads is very low compare to the total of micromonas, but I think that we have some interesting stuff that I will show you soon and the only thing that we would need to confirm if they're eating or not it's more time (something that, unfortunately, I don't have).

Posted by mariacl at Jul 21, 2016.

It's been a long week of analyzing samples from my experiment. Everything started out fine but, turns out, the solution we used to preserve my abalone larvae started to degrade their fragile bodies when they were stored overnight...Therefore, I have to run my experiment again. At the end of week 8... Tiffany and I went up to Davenport this morning to pick up more abalone for next week's experiment, so it's going to be a week of just preparing. It's going to super stressful but I'm ready!

On another note, I've started gathering information I am planning to include in my presentation at the end of the internship and I've realized I have a lot of "basic" information about my project I need to cover. Problem is, I don't think I'll have enough time to present it all. So I'm trying to figure out some ways to summarize it without cutting out information critical to understanding what my experiment is about.

Posted by asan at Jul 21, 2016.

Another busy week. I was having some issues verifying the parameters of sperm motility analysis with the ImageJ CASA plugin. While I got data, the process was fully automated so I wasn't completely sure which cells were being tracked. Another issue was that sperm were going in out of focus from swimming up and down the water column which could have led to error in the data.

With all of these issues, my mentor and I decided that we should try a different tactic. Some digging and talking to other scientists led us to a new plugin called ManualTracking. This plugin does exactly what the

name sounds like. It allows you to manually track sperm frame to frame. The data it outputs is distance traveled and velocity (frame to frame). From this we can determine sperm motility. So now the game plan is to track 10 sperm per each sample and analyze the data from this to compare sperm motility between high and low pH exposures.

The symposium is rapidly approaching so I'm on a tight schedule to process all of these videos. My life for the next week will be endlessly tracking sperm. In between that I will be helping Aileen and Daryll with their experiments. All of us are taking on a different lens of effects of climate change stressors on different life stages in the red abalone so I have loved working together and learning about their projects.

Posted by tthisner at Jul 22, 2016.

Better late than never, right? I completely spaced on this week's Confluence, in part to my Thursday being tied up (more on that in a bit)...

Meetings, meeting, meetings - this week was all about meetings!

Monday's kayaking powwow was fabulous. The conditions were awesome and there were plenty of critters to ooh and ahh at! Kayaking the slough had been on my bucket list for some time, so I was stoked to finally cross it off. I'm eager to do it again!

Later that day, I filled in on an after work panel with aquarium staff along with a group of college students (mainly freshmen/sophmores...?) who are assisting with the aquarium's teen programs this summer. We had an open discussion about career-related tips and suggestions. Though the panel was designed to support the students, I think we all came away with learning a few new things! It was also an awesome opportunity to network with aquarium staff.

Tuesday, Desmond and I met with the social media intern from NOAA's MBNMS office. She was interested about the work we're doing and vice versa. We chatted strategies, ideas, and insights while discovering similarities and differences between our respective institutions.

After delivering her seminar on Wednesday, I met with Amanda Netburn to learn more about her work so far with NOAA's OER. Having also spent time on the E/V Nautilus, she described the differences between the programs and how they are played to their individual strengths. Amanda also provided some great recommendations regarding my interest in marine science communications, including a fabulous reference for my project.

Thursday, I **finally** got sit in on the aquarium's weekly social media meeting and it was AWESOME! Observing their individual teams brainstorm and collaborate reminded me of previous experiences I've had working with content/creative teams. Although I was there as a fly on the wall, I was impressed with the thought processes and execution of social media tactics, many of which MBARI could just as well implement and benefit from. They were equally enthusiastic about an MBARI presence at the meeting and left an open invitation for my return.

Last, but not least, I joined Susan von Thun and Kelly Lance in attending a Friday morning seminar at the aquarium. Shark biologist and conservationist David Schiffman discussed the roles and effects of social media in ocean conversation and shared observations from his personal uses. He had some interesting perspectives that gave me food for though on researchers' perspectives of social media and public engagement. Some of the aquarium's social media folks were also in attendance, so there was a bonus of getting to see them again and carry conversations over from the previous day.

Posted by jvalenzuela at Jul 26, 2016.

21-June-2012

This page last changed on May 20, 2016 by kgomes.

How was your week?

22-July-2010

This page last changed on May 20, 2016 by kgomes.

23-July-2015

This page last changed on May 20, 2016 by kgomes.

Much calmer and more productive week than the last. I started writing the paper and learning QIIME. Met with Mary Silver and Kim FB to explore new avenues for job hunting. I also met with Andy Moore at UCSC for his wise words on Matlab and physical oceanography. Still need to finish counting those QP samples!

23-June-2011

This page last changed on May 20, 2016 by kgomes.

23-June-2016

This page last changed on Jun 16, 2016 by mage.

click on the add comments button below to post your update

Comments

Most of this week has been spent finalizing my project and determining the details of my experiment. I finally have an idea on what my project is and I seem to have all my methods down. All that's left to do is double-check with my mentor, make any necessary corrections, and start collecting the materials I need! Hopefully, I can start my project soon but with the seawater system undergoing repairs I am unsure when exactly I can start, meaning I can't create a project timeline that is set in stone...

I'm quite looking for the barbecue tomorrow at Hopkins. Going to be aboard the Rachel Carson in the morning then dinner afterwards, so tomorrow is gonna (hopefully) be a relaxing day. It's going to be awesome meeting interns who are working in the area and from programs I didn't know existed!

Posted by asan at Jun 22, 2016.

I spent this week integrating two halves of this parsing mechanism. Now, I can take a string input and parse it into a class hierarchy that reflects the XML schema to which the mission scripts adhere. This class hierarchy still needs refining, as the XML schema (computer generated in this case) is not super readable. I also began exploring how to take an instance of the class hierarchy and turn it into XML code that satisfies the schema. Next week I will spend some time investigating a tool that may be able to automate those two steps for me: given an XML schema, it could theoretically produce a case class hierarchy and, given an instance of that hierarchy, produce a valid XML file. The tool is not exactly bug-free, though, so I need to verify that it will work for our purposes.

Additionally, I will begin putting more effort into the user interface next week. An important part of the domain-specific language is useful and easy-to-understand feedback, so developing that is important. Error reporting right now will only be focused on the syntax given--the semantic analysis of inputs is complicated and will have to come later.

I'm posting so early because I'm going out on the Rachel Carson tomorrow! Should be a blast, I'm excited. See you all at the BBQ, if not out at sea!

Posted by emeckler at Jun 22, 2016.

This week has mostly been devoted to post-cruise processing and project organization. We unloaded the Flyer last Friday/this Monday, and tomorrow I will be going through the samples I collected (doliolid tunicates) so that I can start running some assays in our luminometer and integrating sphere. My preliminary assays on the cruise showed me that doliolids have photoproteins, which are proteins that, when bound to their complimentary light-emitting compound, called a luciferin, emit light (bioluminescence). I found these photoproteins to be activated by calcium. The purpose of these next assays will be to 1) determine the conditions (ex. pH) under which the photoproteins emit the greatest light intensity, 2) determine if luciferins other than calcium activate the photoproteins, and 3) attempt to regenerate photoproteins that have already bound to a luciferin and been "spent". Should be pretty fun!

Posted by cpayne at Jun 22, 2016.

This week I have been working on proposal things for REU as well as partaking in some lab work. On Tuesday I did DNA extractions which was 3 hours of pipetting and throwing away lots of gloves. I had a good time though, lab work although tedious is just super cool to me. We also used a nanoDrop which shows the concentration of DNA in the sample after extraction. Out of 17 only 3 were a little bit iffy with the DNA content. Yesterday, I sat in on a MBON call with Kris, Reiko and Kevan and learned more about eDNA and methods involved in collecting it. Today I'll probably be working on some more proposal things as well as doing some PCR with the DNA extractions.

Posted by bcorbett at Jun 23, 2016.

We heard from our partners that the analysis of the videos we sent were unsuccessful. In making more videos for them, I noticed a major inconsistency in the process. The dive videos have a specific

"timecode" associated with them in Hours:minutes:seconds:frames and this timecode seems to be somewhat arbitrarily set in the sense that they do not start at time 0. Instead they start somewhere like 14:23:22:10 or 01:04:23:05 and so on. When we record the tape onto a removable/shareable movie, the movie is in hours:minutes:seconds and starts at 00:00:00 like normal. Not a big deal, but what I found is that when converting the tape timecode into quicktime movie minutes, the zero time given wasn't specific enough. In other words they were given an estimate of where the tape started rather than the actual time. This resulted in some organisms only being off by a few seconds, but in some of the videos we sent, the classified organism was off by 48 seconds! So imagine teaching a computer to "see" and learn what a chair is, but instead of showing it a chair, you show it a house and say, "its somewhere in there." I spent the week analyzing the video, becoming a species identification master, recognizing a pattern associated with the data, deducing what the actual timecode was, converting it into quicktime movie minutes, and re-submitting our data to our partners. On top of all that, I also created a procedure manual for the most efficient and time exact technique moving forward. Just in this week I was able to fix all the videos that were sent pre-internship, tripled the amount of new videos that our partners will receive (the process really is a lot faster now), and have developed a level of consistency that will prove very useful since everyone who requests this data will now get the same type of data and can compare their results. We are now moving to mid-water organisms which should be even more difficult. Imagine you want to teach the computer to see a chair that can swim... Im hoping in the next few weeks we can start to analyze the videos in-house with our own algorithms!

Posted by dhollis at Jun 23, 2016.

It's the third week and I still didn't meet my mentor Alexandra Worden and my second mentor has been on vacation the entire week until next Tuesday so I have been working by myself at the lab. I really like it because I'm getting more and more confident at the lab but I still sometimes have questions so I'm also very lucky to have the coworkers that I have. Everyone is so patience with me and my english and they're always willing to help me.
This week I have been doing more or less the same than the last week, making my cultures grow and measuring if it's working or not. We need so much Micromonas because we will have 12 flasks and be sampling like every 2 hours for ~24 hours, so if each sample is 1mL, we need a lot of volume. It's a lot of work, pipetting all the time and I need to do it at the same time everyday, but I love working on a lab so I'm really enjoying!
Next week I will finally meet my mentor so we can talk more about my project.

Posted by mariacl at Jun 23, 2016.

Is it me or did the past few days seem to just zip by?!?

Chris Scholin had a few key points in his director's dialogue last Thursday that struck me, particularly MBARI's need (and the Board of Directors' desire for MBARI) to effectively communicate the research and technology being done here to broader audiences. Since his dialogue talk, I've been feeling a sense of pressure (self-imposed, of course) to nail my project—if I can execute the content and presentation just right, it could possibly serve as a model in facilitating newer methods of outreach and information dissemination.

This week, I've continued researching, gathering information and reference materials for use in developing content for the Story Map website. I've also been reading up on science communication methods and am finding **so much** overlap with what I learned in the Creative Advertising program at SJSU. The challenge I've had lately is figuring out a connection between the general public and the importance of studying the Southern Ocean (and MBARI's role in researching that). I certainly don't want to be presenting just facts and data; the reader will lose interest without a personal, relatable tie in. During the questions and comments following Anela Choy's DOEST presentation, a member from the audience made light of that exact need. Facts alone simply don't resonate without some type of emotional appeal. I feel Maslow's hierarchy of needs looming over my shoulder...

With my mentor, Susan von Thun, and possibly also with the help of George, I'm hoping to get in on one of the aquarium's weekly communications meetings in the near future. I'm curious to learn how their social media, advertising, and marketing teams collaborate. The aquarium does a spectacular job with public outreach; perhaps meeting with them will provide me insight in how I can connect my project's subject matter with general audiences.

Upon her return from a week on the Flyer, Nancy Barr has been tinkering with embedding a mock up Story Map I created into MBARI's website. Staging was mildly successful and we're exploring alternatives. In the coming weeks, I'll be tapping into her know-how of MBARI's "voice" as she'll be assisting with editing my content.

Since Desmond is also utilizing the Story Map app for his project, we met yesterday (Weds) to bounce around ideas. Turns out, Esri just released a beta Story Map style that is more along the lines of the parallax website styles that Susan and I were initially going for. It's definitely a game changer and I'm totally stoked – so, thank you Desmond for showing me this!

Other tidbits...
– During one of my workout runs to the dunes this week, I took a beachcoming break and found a pinniped skull, yowza!
– Went to the library at MLML twice this week. Great little quiet place to work with epic oceanfront views to distract you. I love how they use the old-school system of filling out/filing cards to check out books.
– All day breakfast burritos from the Snack Shack are awesome!

Posted by jvalenzuela at Jun 23, 2016.

This week has been a continuation of last week except now my mentor has gone and vacation! Luckily MBARI is full of incredibly helpful geniuses so I'm not completely on my own as I continue to work on my MatLab skills, further analyze the datasets I've been already been working with, incorporate new datasets to increase coverage of certain parameters, and begin the process of primary component analysis (PCA) - something completely new to me.
I've also spent a lot of this week reviewing related literature and seeing how I can use previous findings to inform my own paper-for example, some researchers (UCSC) JUST published a paper on this El Niño and the Blob in comparison to 97-98 in the California Current system which essentially encompasses a lot of the analysis I had started to build for my own study. Not that the analysis of Monterey Bay on its own, using completely different datasets, is now invalid, but it has pushed me to look at new analyses I could incorporate into my paper as well. In oceanography people are publishing their findings every day so it's important to utilize this new information to take our own projects farther in the hopes of delivering a worthwhile contribution to the collective understanding of the changing ocean

Posted by gchavez at Jun 23, 2016.

This week has been a lot of teeth grit. While my project's timeline is still on track, I found that the open-source software that I was going to be using to track sperm motility doesn't work and is unsupported. I am switching gears to a new program called ImageJ that has a plugin developed to do the analysis I need. The documentation is lengthy however, so it's been a steep learning curve.

Besides that main bottleneck, I have been gathering materials and fine-tuning my methods so come experiment day I will be as fast and efficient as possible. I want to test the effect of pH and dissolved oxygen on sperm motility. The motility metrics I am analyzing are velocity, curvature, and the most simple, but telling: whether they are moving or not.

Had a great weekly meeting with our collaborators at Hopkins. It's very cool understanding the larger picture in ocean acidification research that my little experiment is contributing to.

P.S. Thanks for the all day breakfast burrito tip Jen. I shall definitely be taking advantage of that!

Posted by tthisner at Jun 23, 2016.

Some day I won't forget to do my Confluence update on time, but unfortunately today is not that day.

This week I finally got past most of my hardware issues, so now I'm actually learning how to use all the software that I'm supposed to be using. I got them to increase the memory of the computer I'm virtually connected to so I can easily process data using Pamguard, so I ran some different clips through it and found out, from clicking around and looking at things it detected as beaked whales vs not beaked whales that it's a really bad detector. Someone sent me some updates for it that will hopefully make it less bad, but I haven't managed to make those work yet. But there were a lot of false negatives, which makes me think that this update, which allows some fine tuning of the detection parameters to allow counting zero crossings without requiring frequency upsweep, would improve it a lot.

The biggest theme for this week is mismatching detection parameters! The reason Pamguard is so bad is that the guy who made it thought that beaked whale signals looked like one thing, but the lady I'm working with on the Pamguard stuff thinks they look a different way, and then the other lady from the Naval Post-Graduate school whose hand-detected data is supposed to be acting as my ground truth thinks they look a different way... This is a problem, if I'm supposed to be comparing methods of detection. I need them to be looking for the same thing before I can compare how good they are at finding it. Small amounts of deviation can be accounted for in the analysis of the methods, but if I am

correct I think that a majority of the beaked whale clicks are not being counted in some of the detectors, which is a big issue.

This afternoon I started looking through some wav files on Audacity to hear actual whale sounds, which is so cool! I found some files that were shared by the old lab I worked in, so I really enjoyed getting to actually listen to the data that I spent all of last year analyzing. It's so amazing to me that I'm sitting at my desk here listening to giant whales swimming around in Southern California or Monterey Bay (depending on the data set) just chillin', diving for fish or chatting with their buddies. There's a whole world of sounds out there that we're just starting to listen to. And the possibilities for research from that sound... it makes me really excited to be getting into the field of acoustics when it's still so new, because there's a lot of uncharted territory that technology is just now starting to uncover.

But anyway, I'm mostly still slogging my way through learning how to use the software, but it's a lot less frustrating than it was when I was just watching my computer crash due to insufficient memory. I'm spending less and less time sitting around waiting for things to load, which has greatly improved my enjoyment of my day, so things are looking up. Come find me if you want to listen to some whale sounds!

Posted by ejacobs at Jun 23, 2016.

Somehow the hardest thing to remember at MBARI so far besides how to navigate through the different buildings is to write my confluence update each week. I swear that I will do this week on time

This week I attempted to use ArcGIS on my work computer but it just does not want to go. I went around and got another license from my university to put on my personal computer. This allows me to create maps for the story map that I am creating. I am 2/3 of my way finished with the first draft of my first story map on ocean acidification. The missing pieces that I need are pages to tie in CeNCOOS to OA without it being encumbered with too much information. However, I am finding it difficult to explain everything that CeNCOOS does while using the minimal number of words and pages.

My mentor and I have setup a meeting time with the founders of Hog Island Oyster Company so that we are able to interview them to get an idea of what the information that we provide does for them. In addition, I can use the opportunity to get some pictures of the area and of the oyster farm for the story map. The only downside is that the only available date they have in July is next Friday July 8th, so I will be working that day. However, it is a great opportunity to meet them and get the final piece that I need to complete my first story map.

On a different note, Jen and I checked out Phil's Snack Shack where they have breakfast burritos for $5~6 and they are massive, definitely enough for 2 meals!

Posted by desmond at Jun 27, 2016.

A bit late on this one, didn't think to complete my update before going out on the Carson on Thursday...

Anyway, that does mean I can report a bit on the cruise itself, which was very successful! We started out down at about 800m and found and captured a jelly pretty quickly. The argon flooding system was incredibly successful, working seamlessly even though this was the first time anyone had tried it. I have to say pressurized jellies without any water surrounding them are one of the strangest things I've seen. They maintained a film of water for a little bit from the surface tension, but they really do have a very jell-o looking consistency and surprisingly reflective surface. We were able to collect seawater spectra and jelly spectra at five or six different depths between 800m and 300m, and can very conclusively say that jellyfish are different from seawater... Shocking, right?

This week will involve lots of data analysis from the spectra we collected, including figuring out the origin of an as-yet unexplained sharp negative peak in the middle of the water stretching mode peaks. We think it's an absorbtion line from the argon we filled the D-sampler with, but we'll have to do some benchtop testing of backlit pressurized argon to be sure.

We also collected a few water samples at depth that we plan to use to characterize the T-P-S dependence of the relative sizes of the water stretching peaks. This will be useful because we expect the jellies to be in temperature and pressure equilibrium with the surrounding water, so we may be able to determine their salinity from the spectral data alone, assuming a well-defined marker can be found. This will be the beginnings of discovering what (if any) salt exclusions jellies are capable of.

Before going out on the cruise, I was able to write a GUI MATLAB program that allows the user to define a spectral baseline in terms of Piecewise Cubic Hermite Polynomials (a MATLAB fit algorithm that's already

part of the curvefitting toolbox, I just built the GUI for it), then fits the resulting baseline-corrected data with five Gaussian curves (corresponding to the five water stretching modes). This was the solution we came up with for the problem of baseline calculation I talked about in the previous confluence post. There are a few minor tweaks I need to make to this program this week, increasing the user-friendliness and possibly adopting a two peak fit version for the water bending modes, but mostly it will involve making use of the program on the data we collected.

Posted by mwoj at Jun 27, 2016.

(Sorry... this is late)

This week was spent learning how to make a data logger using C# and the GHI 400 board. I have done this before using Matlab and C++, but we are using a different type of micro-controller so I had to write a new program in C# to read data from the IMU and save it to an SD card. The data logger needs to be able to read and write data at a speed of more the 20 read/writes per seconds, so the code must be efficient. Most of my time was spent learning about the SD card protocols and methods from online references. I was still having issues by the end of Thursday, so I decided to work a half day in the lab on Friday to get caught up.

When I was not writing code, I was setting up the linear translation stage that we will be using for our bench top experiments. Initially we were using an older computer that was running XP, however after it booted up the mechanical hard drive failed (due to age) so the memory was lost. Most of Tuesday was spent problem solving and looking for another computer that ran XP (the linear translation stage control software is not compatible with Windows 7) and reinstalling the drivers and control software on the new computer.

The linear translation stage is now fully operational and ready for testing. I plan to finish writing the data logger code on Monday.

Bonus: got to go out on a small boat this week with two of the engineering technicians from the lab to change the batteries on one of the moored buoys in the Salinas River area. The buoy has a CTD and nitrate sensor and sends the data back to the lab every hour. It was great to get away from the computer for an few hours and ride up the river. Field work is FUN!

Goals for next week:
1. Finish the data logger code, test and verify it is read/writing at 20 Hz.
2. Prepare presentation slides for my engineering talk on Wednesday with Andy Hamilton.
3. Engineering meeting on Wed. to discuss my simulink model for the CPF dynamics
4. Learn about Allen Variance testing to characterize noise of sensors
5. Setup linear translation stage and modify acceleration profile to provide continuous output.

Posted by nraymond at Jun 27, 2016.

This is really late I know. So last week I was working on mapping the Dorado data. I was able to make scatter plots and so I know exactly where the data was taken at what it looks like. On Thursday I was out on the boat and the Bronine or whatever medicine I took knocked me out so I was pretty much asleep the whole time. But I didn't get sea sick so that was cool. The ROV room was pretty awesome too. It was funny to see how excited everyone got when they successfully caught a jelly, which was pretty impressive so it was warranted. It was excited to be out on such a successful and cool trip!

I will be updating confluence for this week right now so don't worry!

Posted by asmith at Jun 29, 2016.

Well this is awkward.. I would have sworn that I turned in a report for last week but I guess it never got properly submitted. Come to think of it, its pretty fitting that I wasted time typing out a report that didn't get submitted for the week that I wasted time watching and annotating footage that I would end up not using in my research haha. That being said, I just submitted a report for the 30th that gives a detailed description of my updated research project for whoever is interested! I basically spent all of last week going through ROV footage from pulse 65, counting individuals for Cystocrepis setigera and Cystechinus loveni, and measuring their lengths and widths.

Posted by dfabian at Jun 30, 2016.

---

joining the late club...

I have spent my week in a bottomless matlab pit, of which I have still not been able to work my way out. I've been working on rotary analysis of the current meter data on the Rover. Rotary analysis involves the separation of the velocity vector for a specified frequency, into clockwise and counterclockwise rotating circular components. So instead of dealing with the cartesian velocity data (U,V, or the east and north velocity field that the CM measures) you deal with the circular components. This reveals important aspect of the wave field particularly at the depth at which the rover is deployed (it is dominated by a few frequencies, think tides)

The problem I keep running into is that the way that matlab deals with this math is via 7-dimensional matrices, and the periods I'm looking at are so long that it crashes the program and my computer. I only figured this out after having dowloaded the newest version of matlab, which recognized the problem before running the script. Now I have to decide how to run this analysis on truncated segments of the data in a way that makes sense.

Posted by dburrier at Jun 30, 2016.

24-July-2014

This page last changed on May 20, 2016 by kgomes.

scroll down and click on the add comment button to post your update

25-July-2013

This page last changed on May 20, 2016 by kgomes.

25-June-2015

This page last changed on May 20, 2016 by kgomes.

26-July-2012

This page last changed on May 20, 2016 by kgomes.

I've spent most of this week out of the office. Since the aluminum plate arrived from Lusk on Tuesday, I've spent most of my time in the machine shop, laying out hole locations, drilling holes, and deburring edges. The 12 fill in plates are done, and now I'm working on the submerged plate itself. That is proving to be much tougher than I originally anticipated. I'm planning on spending the rest of today using a portable electromagnetic drill press to get through the A36 steel that a standard hand drill just can't handle. If all goes according to plan, the plate will be ready for testing in the test tank by the end of next week. Remaining tasks to complete before testing include: creating a new bridal for the plate (since our last one snapped), moving all the testing equipment (HPU, accumulator, manifold, valve, and hydraulic ram) to the test tank room, making a new mounting bracket for the string pot so we can measure the linear position of the hydraulic ram, and creating some bumpers for the corners of the submerged plate to protect the inner wall of the test tank.

26-June-2014

This page last changed on May 20, 2016 by kgomes.

Last week's update, which I somehow deleted:

At work on Monday, I realized I wasn't getting lost in the building as frequently, and that I'd identified some favorite tea selections: sure signs of feeling more at home here! I'm excited to get going this week. My mentor and I refined my personal project (standardizing image analysis algorithms for the Sedimentation Event Sensor), and I learned some C over the weekend, so I can't wait to start coding. I'm looking forward to helping Rich work on the rovers later, which have to be ready for their deployment next week!

This week's update:

Yesterday, Jen, Jon, Ben, and I accompanied the benthic rover team on the Rachel Carson. I had only ever been seasick once before; I lasted four hours until I had to lie down and sleep through the rest of the trip. I did get to see a some whales and Risso's dolphins (Jon was jumping up and down with excitement). Fortunately, I lasted just long enough to see the rover sink underneath the surface, followed by the ROV. All in all, a very exciting day and every bit worth the queasiness that accompanied it.

27-June-2013

This page last changed on May 20, 2016 by kgomes.

28-July-2011

This page last changed on May 20, 2016 by kgomes.

Wow.. Week 7 is upon us! Linda and George are taking off, but please do post your update as we hope to be able to check in from afar. There will not be an intern meeting on Monday Aug 1. George will be back on Weds sometime - not sure when I'll get into work. Have a good week.

28-July-2015

This page last changed on Jun 16, 2016 by mage.

click on the ADD COMMMENT button below to post your update

Comments

Crazy week, nothing has gone according to plan, but I'm happy where I am at this point. I finished my paper (still needs a lot of revision, but each part is there), my project is coming to a close, and I finished my lesson plan for STAR which I think kids would have a real fun time experimenting with. For those interested...

Suggested for grades 9-12

To be completed in 1 - 2 class periods.
1.) Students will be shown real world instances where machine learning is used in everyday life (Facebook tag-a-friend using face recognition, self-driving cars, etc.). Students will break into groups and engage in a brainstorming activity to discover ways face recognition and machine learning could be used to improve their lives.

2.) The conversation will then be focused on how automated detection and the principles of Facial recognition and machine learning IS used in marine biology (using specific features unique to underwater animals to detect them among marine snow and complex backgrounds). Students will learn about 3 specific organisms (Peniagone, Scotoplanes, and Echinocrepis). Students will be asked to explore Wikipedia, google, the MBARI Deep-sea guide, and any other resource to find as many images as they can in a short 10 minute time limit. Students should focus on what makes each organism unique. Are there any species mimics? What characteristics are the most important to search for? (color, shape, texture?)

3.) Students will now be given a chance to explain these three animals as best they can as a group. What do they look like? What characteristcs stand out? What are the three most important filters (color, shape, texture) the computer should select for when trying to detect these animals? Could you use the same filter for all three or would you have to change the filter for each animal? What is more important, increased efficiency or accuracy? Why?

4.) Now that students have their 3 most important characteristics, they will use their phones or laptops to play Kahoot! And elaborate on what they've learned. They will be "trained" just like you train a neural network by being shown images of a particular species, paying special attention to their 3 characteristics. Images of the different animals will pop up on the screen and students can vote on what the animal is (Other, Peniagone, Scotoplane, Echinocrepis). Kahoot! Will automatically show which students are getting the answers right or wrong and students will be given an opportunity to justify why they picked each answer. Just like a neural network, they will get better at identifying the animals.

5.) Once students have played Kahoot! And improved their identification skills, they will be evaluated by watching an unseen video (much like a neural network would) and see how many species they can I.D. using a mock VARS system. How many did you get right? Which animals did you confuse for others (species mimicry)? Would you keep the same 3 filters (some animals are the same shape, but different color and vice versa)? Would it have been easier with more pictures (neural networks also do better with more images)?
Topics that will be tied into the lecture period can include climate change, upwelling events, ecology, food webs, species mimicry, and evolution.
Let me know if anyone would be interested in being a guinea pig on this and we can try it out

Posted by dhollis at Jul 28, 2016.

This week I am successfully learning stress management haha. On a serious note though, things are starting to come together for my presentation and project. Since last Thursday I have been touching up my charts, graphs, figures, etc. for my results, as well as making sure I have a good grasp on what these charts are showing in terms of the question I am asking (what is the difference between the pulses). Aside from touch ups, I have been working on my presentation and paper, as well as meeting with the people in my lab to discuss their thoughts on my results and presentation. I am not as far along in my paper as I'd like to be, but the good thing is that it isn't due on the 10th so I'll have a few more days to finish it. I hope everyone completes everything on time and feels well prepared by the 10th!

Posted by dfabian at Jul 28, 2016.

I have had a pretty awesome week for my project. I have been meeting with my mentor a lot to fine tune some things in my code, which looks awesome. I have learned so much about code writing and code etiquette! The internship is coming to a close which also means that all the other things in life I have been putting off for the summer now become relevant and demanding again, which sucks, but I will get everything done.

I have started outlining my paper and writing down all my notes into one document so it will be easy to put my thoughts into words. I will be focusing my paper on spatiotemporal dominance of phytoplankton in Monterey Bay.

I haven't begun to put together a story board of my presentation yet, which is bad I know, but I'll get it done. I am trying to think about what figures are the most important and interesting, but I am biased because I think they are all interesting. There is one figure that is basically my baby and of course he will get a lot of attention but I need to spread the love and not focus all on that one.

It is Thursday and I have not packed for moving tomorrow so that will be my life this evening, however I did my confluence on time so this counts as a winning week in my book.

Posted by asmith at Jul 28, 2016.

This week has been and will continue to be stressful. I have a 10 page (double spaced) paper due for my REU program tomorrow that could use a lot of work. Also my online class has two assignments due this weekend. I've never felt more alive.

On top of that, the sequences I received back from Stanford were of extremely low quality. In order to get some type of read that doesn't suck we have to loosen up the parameters a bit. To be honest I'm getting into the land of "what do those words mean?" when my mentor and others are talking to me. Mostly because I'm working in the terminal window and with scripts and bash etc so forth. Not my forte, but I'm learning slowly. NASA was really cool, minus the hellish drive back, shout out to my sweaty homies. Learning R steadily, but mostly just scrambling trying to write this 10 page draft, mid summer reflection, my online class stuff, and preparing for the symposium. How fun.

Posted by bcorbett at Jul 28, 2016.

Finishing this week with my final draft of my product - its unbelievable how many people need to look at this before it can be approved. I understand it but it has taken so much time because of the constant back and forth.

On a different note, I wished that I had thought of this earlier in the internship but I maybe going down to Canary Row early next week to survey people. My goal is to get a sense of what the public know about the issues I have been working on such as ocean acidification and harmful algal blooms. Today, I am going to design a quick survey to get data on whether people understand what these changes are, whether they believe it is happening, and whether they believe it impacts them. I will analyze the data and incorporate it into my presentation on the 10th.

Like Alaina, I have not packed so that is going to be the bulk of today's work after work.

Posted by desmond at Jul 28, 2016.

This was a weird week because both my mentors were gone on Monday and Tuesday, then I was gone on Wednesday, so today has been a lot of touching base to make sure we're all on the same page.

I was feeling great about my classifier this time last week, but that's because I was running it on data that was just a bunch of concatenated clicks, not raw data. I had a very unfortunate start to my Monday when I tried to apply my classifier to a clip we were hoping to use for my comparison and I got 350,000 detections, all of which were noise rather than clicks. The rest of the week has been dealing with the fallout from that realization. Turns out, that clip is actually just bad for PAMGuard (though my classifier was also really bad) so we're going to go back to the original events I had been looking at at the beginning of the internship, some files from last October. We had shied away from using that event before because we're not 100% sure it's a Cuvier's beaked whale, but at this point we're not sure ANYTHING is a Cuvier's beaked whale so we're just going to have to compare "unidentified beaked whales that are probably Cuvier's" instead of "Cuvier's beaked whales," which is a little annoying in terms of sounding

cool in my presentation but in the grand scheme of my project it's fine, as long as both methods are looking at (and for) the same thing.

A really fun headache has emerged from the realization that the MARS power supply hums at 50 kHz. Why is this a problem, you ask? Because guess what else makes noise at 50 kHz! (If you answered "Cuvier's beaked whales!" then you are unfortunately correct.) I looked at some HARP data and its peak is at 51 kHz, meaning the peaks at 50 and 100 kHz I've been looking at aren't completely inaccurate, but are very strongly skewed by the fact that there's a loud hum right there from the power supply. I had been suspicious of the peaks being RIGHT at 50 kHz just because the real world does not generally stop at such exactly nice numbers, but I didn't know why until this week. I believe that if I could filter out this 50kHz hum, I could get rid of the ridiculous number of noise detections on PAMGuard, so I am finally treading into the realm of actual full-blown MATLAB signal processing, not just looking at the Welch's power spectral density estimates. Again this is a task for which I have next to no background to go off, but I'm up to the challenge.

I'm starting to feel the time crunch on getting my data. I'm not super concerned about having enough time for my paper because I have plenty of experience as a procrastination-inclined college student, but I am super concerned about having enough time to do the actual data analysis for the comparison. So hopefully all these issues will get worked out in the rest of today and tomorrow and I can do my analysis starting next week.

Also-- Tuesday was a big day in the beaked whale community! A new species was defined! Remember when I was so excited about finding out a new one had been defined in 2001? Well, that is nothing compared to a new species literally the day before yesterday! Basically everyone I know sent me the Nat Geo article about it (check my facebook wall if you're interested in the article, my friend posted it there), and one of my collaborators sent us the actual paper that was published. Originally it was thought to be a type of Baird's beaked whale, but now they think it's its own species, more related to Baird's cousin Arnoux's beaked whale, that just happened to occur sympatrically with its cousin Baird's. Crazy stuff!! Beaked whales are the absolute best, it's so cool to be in a field that is so current and evolving.

Posted by ejacobs at Jul 28, 2016.

I had a pretty slow week, which probably isn't great at this point in the internship...

Ed is out all week, so I've had to be more independent than usual. Fitting algorithm/program is pretty much complete, and looking at the bending peaks of water seems to be successful (as I said last week, trying to fit the stretching peak is prohibitively difficult, there are just too many degrees of freedom when trying to fit the sum of five gaussian curves). All I have left at this point is putting together functionality to save the fits and information to a file for later easy reference. I'd like this file to include an image of the fit, the error functions for the smoothing and fit, the limits of the spectrum segment we're looking at, the smoothing parameter, the fitting parameters, and the values of the resultant fits, so I'm thinking just making a picture with all that info makes sense.

Planning on collecting some seawater spectra for the depths we missed on the flyer cruise using a temperature controlled pressure cell either today or tomorrow, so I've gone through the CTD data and collected temperature and pressure information from our three dives in 100m increments.

Posted by mwoj at Jul 28, 2016.

This project is starting to come together! Very exciting. I've been working on semantic validation, which is making sure that the code people enter isn't only grammatically correct but also makes sense. For instance: "I flew my sandwich through the Monterey Canyon," while grammatically valid, still doesn't make any sense. In terms of this project, that means making sure that any behaviors referenced actually exist, making sure variables aren't defined twice, making sure they don't use variables they haven't defined, etc. This validation is in service of an error-reporting feature that can correctly identify the location in the code where the first error is, highlight it for the user, and tell them what was wrong with what they entered. Error reporting, as it turns out, is most of the work when it comes to building anything that takes user input. As such, I'm rebuilding a lot of the parsing in order to capture more information about the code elements to provide more useful error messages. If only nobody made any mistakes, I could be done by now!

Also, with every day comes more understanding about the source XML files, which invariably means assumptions I made early on were shortsighted and destructive. Sigh. So I'm on a bug-squashing, error-reporting, and code-restructuring spree. I haven't as much as thought about the actual report yet!... Or the seminar. Oh boy. Good luck everybody.

Posted by emeckler at Jul 28, 2016.

This week has been a little slow but pretty valuable - I now know (somewhat confidently) how to use an HPLC! In terms of purifying and characterizing my radiolarian/phaeodarian photoproteins, this is a highly useful instrument because I can fractionate my crude photoprotein extracts. In other words, it can separate sample components with different properties, i.e. isolate my photoprotein from other proteins and non-proteins in my sample. Unfortunately, 1. the machine (which is extremely expensive and requires diligent maintenance) hadn't been touched in 3 years, and 2. every brand's HPLC and associated program is different, so my only lab-mate (Manabu, Japanese visiting postdoc) who knew how to operate an HPLC had to re-learn the setup of our machine. So, Manabu and I spent the first part of this week learning how to get the HPLC to work properly, and are now playing with "model" proteins to test the instrument's accuracy and precision.

Thursdays tend to be BIG experiment days, so today I'm running another regeneration experiment. I've been having issues ridding my samples of excess calcium ions from the biolum assays I run, which seem to be interfering with the regeneration of photoprotein from apo-photoprotein. Lame.

It's amazing how quickly this internship has gone, and I feel like I have barely scraped the surface of my project's full potential. Now that we're close to the end, it seems that I have so many more questions than the handful of research-directed questions I began with. As this is the case, I am still running assays and gaining new knowledge about my photoproteins every day, which has made it difficult to begin my report - my project has no clear-cut conclusion.

Posted by cpayne at Jul 28, 2016.

That NASA trip was once again a highlight of the summer (quality of van aside). Its such an inspiring place, and I thoroughly enjoyed getting to meet with and hear from, both the staff and interns.

This week has been a train wreck as far as project work has gone. I lost about a months worth of coding due to a matlab crash, that I'm still trying to understand (as well as poor version control on my end). While heartbreaking, a lot of the code is backed up in other scripts that I've written, but I am now in a mad scramble to get back to where I was last week.

Positive steps have been made with modularizing the data so once I complete my overhaul, I can run through the analysis pretty quickly.

Posted by dburrier at Jul 28, 2016.

It's been a busy week with no time to waste, so I'm keeping this report short...

Had some hiccups this week (like leaving my external drive back in San Jose), so I've been making due pouring through additional photo and video assets for use in my web project. The glitches in ArcGIS's Cascade Story Map app became even more apparent and I have to keep reminding myself that it's still in beta. Nonetheless, I'll be clocking in some time on my website project this weekend. My goal is to have it pretty darned polished come next week. (And don't be surprised if I make rounds to have some fresh eyes critique it!)

The morning of our NASA trip, I actually debated the idea of staying behind to work on my project. I'm so glad I didn't make that mistake! My more recent visits to Moffett have only been to shop at the commissary, so it was awesome to actually check out some of the rad stuff they have going on there! Their human research program was a surprise to me. Very cool work on physiological stuff! I especially enjoyed our stop at LOIRP's "McMoons" facility and dig their technoarchaeology discoveries. I'm still blown away with the resolution of the images they've uncovered. And bonus points on the relevance and benefits of old/analog technologies!

Posted by jvalenzuela at Jul 28, 2016.

As usually I'm writing my confluence at the very last minute!

On Monday I had a meeting with my lab where I needed to explain to all the people from my lab what I have been doing so far with a little powerpoint and I'm so happy to say that I did it well! I'm so proud of myself to be able to explain everything in English and realized that they understood what I was saying! This really helped me for the future symposium.

At this point the main experiment is done, which is awesome, but also means that I won't spend a lot of time at the lab which makes me so sad. Right know, I'm focusing at the paper and the symposium, collecting all the data and information I have from my project and trying to figure out how to put it together. I have never done a paper before about a project because I have never done a project before so this is even harder for me (and never forget that I need to do all of this in a different language, which makes this more exciting but also more difficult!). Anyways, I feel so lucky because one of my mentors is helping me a lot with this and is always willing to explain to me more about how to make the perfect paper and presentation, and also because many of the other interns has offered to help me too.
So I'm trying to decided which data is important to use for this presentation, which graphs and the best way to explain the awesome project that I have been working on during this summer.

Also NASA was amazing yesterday!!

Posted by mariacl at Jul 28, 2016.

Had a meeting yesterday with my official and unofficial mentors to get feedback on the graphs and figures I have produced so far and weed out the ones that really aren't going to be so useful for my final presentation. I have attempted a lot of different types of analyses for these datasets and it's funny but not all that surprising that the simplest of them are the most illuminating. Here I am using complex mathematical functions to produce the dominant modes of variability over the last 27 years and really the best way to show how the recent "El Niño" and "Blob" events differ from the rest of the record is a scatterplot I made in a few clicks of a mouse.

Both my presentation and paper are still in outline form but once I get my figures cleaned up and finalized I think it will be relatively easy to fill in the supporting information around them. Good luck to every one as we enter the home stretch!

Posted by gchavez at Jul 29, 2016.

Sometimes it is just better to start over from scratch. After spending the last eight weeks writing programs and setting up my sensor to run experiments on the linear table, Gene and I decided to rewrite the data logging program since the code was getting overly complicated. I also developed an entirely new strategy for filtering and processing the IMU data using a new type of filter. The good news, it was much easier and faster this time (instead of eight weeks it took eight hours) and now I have a much more streamlined process.

In addition to a cleaner version 2.0 of my code, I have added a calibration function to remove a linear offsets from the raw accelerometer data and am now running experiments to determine if the linear translation table is level and flat. Before I run the next round of experiments I will be accessing the error in the system to try and get a better estimate on the final velocity values we can expect from this test setup. We would like to measure 1 mm/sec^2, however the noise and misalignment of the stage may make this very difficult. I am sure that I will be collecting data and running matlab scripts up until the last minute of this internship, but at least the end is now in sight.

Posted by nraymond at Jul 29, 2016.

It was such a crazy week...Most of my time was spent preparing for a second experiment so lots of autoclaving and running around gathering materials. But everything went well and now I have results to work with! I guess all that is left is the presentation and paper to write, but I'm quite glad that I just need to edit my paper and presentation from the ones the REU had us do. I don't have to start from a blank page, which is a huge relief because blank pages are very intimidating...

Posted by asan at Aug 07, 2016.

28-June-2012

This page last changed on May 20, 2016 by kgomes.

test

29-July-2010

-

05-August-2010

This page last changed on May 20, 2016 by kgomes.

-

12-August-2010

This page last changed on May 20, 2016 by kgomes.

-

30-July-2015

This page last changed on May 20, 2016 by kgomes.

Week 8 has been busy but productive, nonetheless! I finally processed all of my data from my fixed samples and how have a beautiful graph to show my results! I still need to do some statistics and clean up my findings a bit, but everything seems to be coming together! I'm so happy to see all of the work I've put into this project start to become something.

Also, NASA was really cool (thank you George!!) and I'm looking forward to winning at the soccer game this weekend!

30-June-2011

This page last changed on May 20, 2016 by kgomes.

The last week has been really interesting, and as usual very fast paced!
This Week:

- Read about Ocean Acidification
- Plotted pH and O2 mooring data and looked for a correlation with physical parameters
- Researched aquaculture companies in the CenCOOS region, and data platforms near the farms.
- Designed a survey for shellfish growers at next weeks workshop.

Next Week:

Attend a workshop on ocean acidification and shellfish growing. Ask lots of questions, and meet lots of people. Take careful and complete notes!

30-June-2016

This page last changed on Jun 16, 2016 by mage.

click on the ADD COMMMENT button below to post your update

Comments

FIRST COMMENT!

I am writing my confluence now so I do not forget!

This week has been pretty successful. I have decided what function I want to use to map the data, a histogram function. The data that I am using the data collected from Dorado between 2003 and 2008. My mentor and I chose these years because this is the longest continuous data set and after 2008, the Dorado switched instruments and then the data is pretty patchy through 2015. So far, I have created maps showing the monthly averages for sea surface temperature, diatom counts, autotrophic dinoflagellate counts, and bioluminescence. I have also been able to figure out the depths of the thermoclines. I think I am going to be looking at comparing the depths of the thermoclines to the depths at where the maximum diatom, dinoflagellate, bioluminescence, and fluorescence are. This would be interesting to see if the thermoclines have any effect on this data.

Posted by asmith at Jun 29, 2016.

So far every experiment I have run this week has been unsuccessful, which is unsurprising because failure accompanies scientific research in any discipline. As mentioned, my week on the cruise yielded beautiful preliminary experiment data, which showed me that my doliolid species has a photoprotein that can be activated (will emit bioluminescence) with the addition of calcium. Well this week I attempted the exact same experiments that I performed on the cruise with samples from the exact same doliolid colony (frozen) and I have received exactly zero signal. Other than going crazy over these failed experiments, I've been doing a ton of reading and Python script-writing - the former to figure out what is going wrong in my experiments, and the latter to organize my data once I do figure out the issue.

Despite the issues, I am confident that I will be able to activate the doliolid photoprotein one way or another. As both a blessing and a curse, there is nearly nothing published on the biochemical basis of doliolid bioluminescence, which makes my project extremely exciting but also leaves me totally uncertain on what to expect and test. So, I will have to play around blindly until I get some light - let's just hope that happens sooner than later!

Posted by cpayne at Jun 29, 2016.

Cheyenne- I get the pun 

I managed to finish a first draft of my story map this week. This story map will be talking about ocean acidification, how it affects shellfish farmers and what CeNCOOS is doing to help these farmers with ever changing ocean conditions. Making this draft has been frustrating because I have been using ESRI's ArcGIS online story map tools, specifically the cascade design tool, which is said to be in beta testing mode. Honestly, it is extremely limited in your ability to customize what you want on the story map. For instance, you can change the text size to 3 predetermined sizes but each size is accompanied by a different font type. You cannot move the text boxes to where you want them and imported images are a fixed size, so finding images that are roughly the same dimension on the internet is very difficult.

I am also going to run into a problem with the software and giving CeNCOOS my end product. The desktop I have been using is ancient and therefore, has a hard time running most programs. Therefore, I have been running most of the mapping and other programs on my personal laptop which stores my maps on UCSB's GIS server. What I have to figure out is how to transfer those components over without having to make the map over again. At some point next week, I will be coming to you all and getting your feedback on my map! The goal is to have the final draft complete by the middle of July so that I can release the story map and get some feedback.

Posted by desmond at Jun 30, 2016.

This week I've mostly been working on my proposal for the REU program. I finished it and sent it in to my mentor for review but it looks like I am going to need a lot of revising...On the bright side, I will know for

sure what I will need to do come experiment day. It's been a bummer that the start of our experiment keeps getting pushed back since my mentor will be gone next week, but that does mean I have more time to mentally prepare myself. In the meantime, I will be gathering the materials needed to ensure the experiment goes as smoothly as possible and playing with other equipment I will be needing such as the dissecting microscope.

Posted by asan at Jun 30, 2016.

Spent Monday and Tuesday writing more detailed GUI scripts for spectra fitting, working with the old sea water spectra collected in lab. We also went through some of the plumbing plans for our July trip on the Flyer, using piston accumulators rather than gas cylinders to pump Argon into the D-sampler. This helps because we can reclaim the argon we used (hopefully with minimal jelly bits), and also adjust pressure mid-dive by pumping seawater into the back of the piston. Since we plan to go to 3000m, the 3000 psi limit of gas cylinders won't be enough to push any gas out, so we need the different technique to flood the sampler.

On Wednesday I figured my GUI was about as good as it was going to get (and I was also getting tired of slogging through the MATLAB documentation on various figure, axes, uipanel, uicontrol, group, primitive line, and other object properties and callback functionalities; along with every other MATLAB function and error handling technique imaginable), so I figured I'd try using some of the data we collected last week on the Carson. The seawater spectra we collected at every depth appear as expected: slight shifts in wavelength and relative intensities of the sulfate peak, water bending peaks, and water stretching peaks. The jelly spectra, however, had something weird going on. The sulfate peak and water bending peaks are essentially nonexistent and the water stretching peaks go completely wonky. We can no longer resolve just how many peaks are appropriate to fit in the stretching mode; it may be that one peak just dominates the other four, or they may add together in a more symmetrical pattern than before, or some may disappear in the noise while others add symmetrically, we really just don't know.

We also have absolutely no explanation for the disappearance of the bending modes. If the simplest interpretation of the data proves true, we have shown that jellyfish are basically just fresh water jelled in such a way that the molecules cannot bend. Both Peter and Ed doubt this is the right way to look at the data, particularly since spectra taken of jellies in the lab show both the sulfate peak and the water bending peaks, but as of now we have no better explanation. It may just be that the water stretching modes wash everything else out and the Raman spectroscopy technique is not sufficient to address the question. This also doesn't bode well for the trip in July, since we were hoping to use a ratio of the areas of the water bending peaks to the sulfate peak to determine the salt exclusions of the jellies. The non-existence of the peaks in our data appears to make that difficult...

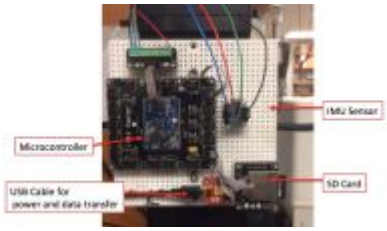
Anyway, I'm now leaving that data interpretation to the actual chemists, and have gone back to looking at the seawater spectra we collected. We're planning to plot some different area ratios with respect to temperature and pressure, to see how the structure of water responds to those two variables. We have some good information from a paper that tested temperatures from 22 to 400 C and pressures from ambient to 256 bar, but they don't really show any trends and changed temperature in the wrong direction from what we need. We also don't have access to their raw data, so only know the few wavelengths they reported in the paper, and know nothing about the area under each curve except what I can extract by attempting to reproduce a few of their figures. Baseline correction is still a problem, but has mostly been solved and we should hopefully have some nice functional dependence soon.

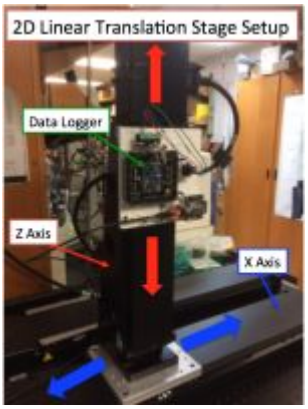
Posted by mwoj at Jun 30, 2016.

Finished writing the code in C# to read data from the IMU and save it to the SD card. Performed a speed test to determine the maximum rate that we would read/write to the SD card using both StreamWrite and FileStream methods. We are able to read/write data reliably at 45 Hz, however after 10,000 read/ writes the garbage collector runs (a memory cleanup and allocation tool that operates in the background of your C# code) and interrupts our data logging for 240 milliseconds (that is too long). For now, this is acceptable, but for ocean testing we will need to fix this issue.

The rest of the week was spent preparing for an engineering review with my mentor Gene, and engineer Andy Hamilton. The meet is at 11am today (I will update this after the meeting) but we are reviewing the dynamic model of the CPF that I have been working on in Matlab to get a second opinion and ensure there are no obvious errors in our approach or assumptions. I made a demonstration and a powerpoint for the meeting.

Now that the IMU and data logger are working, I was able to start running the linear translation table to collect acceleration data so that we can determine the minimum detectable acceleration using the inexpensive IMU.





Update from the meeting: presentation went well and Andy suggested a method for validating the output of the model using a closed form solution to the first order ordinary differential equation by solving explicitly for the CPF when velocity given a step input for the ocean current profile. We also discussed the concept of "added mass" that is important when calculating the dynamics of a body moving through a water. As a result, I will be updating my simulink model with a new added mass calculation.

Posted by nraymond at Jun 30, 2016.

This week has been pretty exciting. One of my mentors (the one that has been with me these 3 weeks) was on vacation so I was working on my own all day and sending her the results of my cultures which was so good to see if I can do everything without any help.
And the best part is that it seems that I can!
Yesterday, I finally meet my mentor Alexandra Worden and today Thursday, my two mentors and I are trying to have a meeting and talk about how the project is going, what are we gonna do next and how exactly we're gonna do it.
During these weeks of work I have been doing pretty much the same, always trying to make the perfect media for my micromonas, measure them with the Accuri to see how many cells/mL we have, and transfer them into a new culture with fresh media for them continue growing, because as I said in my last confluence, we need a lot micromonas for our experiments. Even though it's sounds boring, it wasn't because everyday I have learn something new and also I get the chance to know what are doing the other people from lab and get to know them a little bit more. I'm starting to realize how much I like to work in a lab when you have a real project and you're doing what you're doing with a reason.
In two weeks, after talking to Alexandra and decide with her how are we gonna start the experiments, the fun begins and we'll try to see if they're mixotrophic or not!!

Posted by mariacl at Jun 30, 2016.

Spent most of the week working on things that I will not be including in my research anymore soooo there is that... But despite slightly wasting time, I did improve my species identification skills! My original plan for my project was to focus on three urchin species; however, as of yesterday we decided that it would be best to just focus specifically on Echinocrepis rostrata because the other two species have yet to be identified in the footage for pulses 65-66. Linda briefly looked over the footage and noted that there were hundreds of individuals for Cystocrepis setigera. That being the case, it would take entirely too long for me to annotate all the necessary footage for all three species in time to complete my project and paper by the due date. Next year I will still be an MBARI collaborator so I hope to include the other two species in my future studies when I am writing my thesis in the fall for graduate school. I am currently going through pulses 65 and 66 of the ROV footage and measuring the length and width of each individual. I am using the length and width measurements to calculate biomass, which I will compare to density and color. I have been making histograms of size classes for pulses 64-66 so that I can assess any change in density and/or size of the local Echinocrepis rostrata community from 2006-2015. I am also looking into how color relates to density. I am assuming that the white colored individuals

are juvenile and will be able to compare color with biomass measurements to see if this assumption is correct. I also assume that there is a positive correlation between density and white individuals, meaning when there is an increase in density you would also see an increase in white (juvenile) individuals. To correct for error in the measurements, I am taking 10% of the frame grab images and inputing them into Solidworks, which will allow for a more accurate measurement of area (biomass of individuals). I will use the best frame grab images as the 10% so that I can see how area measurements in VARS compare to measurements in Solidworks, and will then be able to reduce my error. I have also written up my outline for my paper, and will start working on the Introduction section as soon as I get some free time! Hope everyone is having a great week!

Posted by dfabian at Jun 30, 2016.

Similar to Desmond, I too have been working with the Cascade style of ArcGIS's Story Map app this week, including shared frustrations over its design limitations. Granted, the Cascade app is in beta, but from a graphic/web designer's perspective, I'm peeved that some basic elements are absent from its current UI (user interface). Reverting to the design flexibilities of the more established style apps is certainly tempting!

In developing content for the Story Map website, I've been pouring through assets. Selecting (and, if need be, creating) relevant assets is critical, as the site will draw heavily from multimedia interaction. Written content to accompany these assets has also been a big to-do this week. The upcoming holidays and closures, along with scheduled cruises and vacations of staff members, has made for some challenging milestones to meet in my project's timeline – for those of you who have had to work in the absence of your mentors, I completely empathize with you!

On Tuesday, I got to tag along a day cruise aboard the Carson. Prior to going, I already knew I wouldn't get to experience the control room in action, as the trip did not involve ROV deployments. Like my previous experiences on boats, I wound up feeling tired and sleepy, eventually making my way to the cozy confines of one of the bunks. We got into some decent sized swells; twice I was woken by a feeling similar to having laid down on a trampoline that was being jumped on. Somewhere between stations M1 and M2, the decision was made to have the Carson turn back home. Z conveniently woke me up in time where I was able to make a sandwich, enjoy the approaching view of the smokestacks, and exchange yells with my buddy at MLML's dock as we passed by.

After yesterday's (Weds) seminar about Ed Ricketts, Matt and I joined George and Don Kohrs for lunch – what a treat! Don is an SJSU alum (like me!) and was a real pleasure to chat with. He sure knows his stuff, and I'll definitely be keeping my eyes peeled for more of his information and discoveries about Ricketts. For those of you who wanted more background info on Ricketts, the upcoming lab tour should help fill some gaps. I thought it was kind of funny how Don skirted around stating that Ricketts was a college dropout, and the myth of his little black book's existence is pretty hilarious.

This afternoon, I'll be joining Dallas and Desmond as part of a mock panel for the Watsonville Area Teens Conserving Habitats (WATCH) program, as they'll be participating in an exercise involving land use development. It's always interesting to get into the minds of youth and teens—should be interesting to hear what arguments and solutions they present!

Posted by jvalenzuela at Jun 30, 2016.

Sorry I'm late, totally slipped my mind!

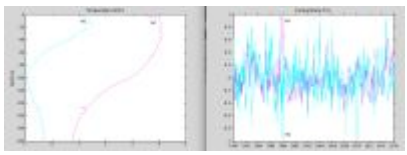
I've spent this week working with the scalaxb, a tool that lets me convert XML schema files (the structure that all the AUV mission scripts have to follow) into the language I've been writing code in. It's still experimental, so I had to figure out if it was functional enough for what I'd be using it to do. It seems to work! Which has opened up other cans of worms that I'm sifting through as much as I can. I'm also working on flipping the way the parser processes inputs from top-down to bottom-up because it's more intuitive and easier to change later. Third, I'm learning how to make a UI and how to have it give meaningful feedback, which is ultimately one of the main goals of making a new easy-to-use language. My mentor has been on vacation all week without as much as an internet connection, so certain steps have been going slower than I would have liked due to not having any outside input for troubleshooting, but hey! That's part of why I'm here, to get better at this kind of thing.

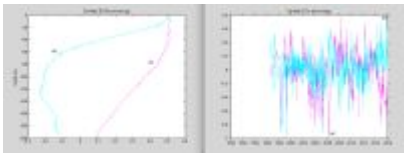
In the coming week (or weeks, depending on how much gets done during the very short week coming up) I'd like to finish up the syntax half of this project, meaning I have a full system in place for parsing, understanding, and providing feedback for how well an input adheres to a given grammar structure (like the schema files I mentioned earlier). Then, I can start worrying about the semantics half of this project:

figuring out if the user input not only is grammatically correct, but also makes logical sense (i.e., is -2 a valid speed? Does the file newFile.xml exist?) and providing feedback based on that.

Posted by emeckler at Jun 30, 2016.

Have continued to perform primary component analysis (pca) on different physical and biological parameters I am focusing on at M1-temperature, salinity, nitrate, chlorophyll-and it has allowed me to pick out some interesting relationships between these variables that would not otherwise be so apparent. For example the first two "modes" of variability (the product of a map, or in my case, a vertical profile of anomalies and a time series) for both temperature and salinity are quite similar which was not necessarily to be expected. Mode 1 is clearly related to El Niño. Mode 2 is more difficult to interpret. Still lots of work to do to create a fuller picture of the variability at M1 since the time series started and understand how the recent events of 2014-2016 fit into it





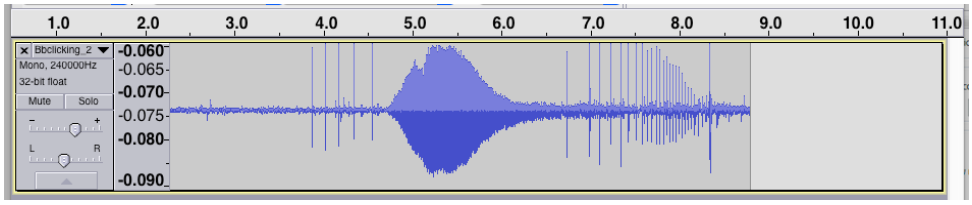
Posted by gchavez at Jun 30, 2016.

I told myself I would submit it on time and to be fair, this is closer than last week, but I'm still not quite on time. Sorry George and Linda. But this week has been really good! I actually accomplished some real stuff, other than just messing around with the software. Well, it was messing around with the software, but productive messing around because now I feel like I have a good grasp on the functionality and limitations.

I've never really tried to manipulate databases before, but this week I've learned the ins and outs of SQLite, so now I know how I am writing data to my database and how to manipulate it once it gets there. I still haven't spent a lot of time with wavelets, my other method for comparison, but I get the impression that that one is going to be less hands-on for me because it's still developing at a much higher level than I, with my meager biology degree, am going to be able to figure out. However, I do appear to have become a resident MBARI Pamguard expert, so that's pretty cool. I'm thinking about trying to go into the javascript of Pamguard, since it's open-source, and changing this one preset that I really hate where you can't set your own fixed axis for the waveform viewer, it's just stuck at 4s which is much too long for echolocation clicks. It's intimidating but also how cool would that be if I could alter something in the Pamguard software? We'll see. It's quite an undertaking since I've never even seen javascript code as far as I know. But I'm up to the challenge (maybe).

I've also been messing around with making my own classifier in Pamguard, because that's a constantly evolving thing--just because Pamguard as a piece of software has the capacity to detect a lot of clicks doesn't mean it's going to be good at classifying them as beaked whale or not beaked whale. So I've been trying to find a good medium between being too specific and missing the off-axis beaked whale clicks, and getting so broad to catch those that it starts catching dolphins too. It's a lot of fiddling, changing the frequency range, changing the zero crossings, things like that.

Yesterday the naval post-graduate school sent us a really great recording of a Baird's beaked whale, which is basically the older brother of Cuvier's beaked whales, from an acoustic tag so it's very clear and loud. It's so neat! The clip captures a feeding event, so you get the echolocation clicks, the buzz, and then the subsequent clicks too. So again, if you want to hear some super cool audio of a beaked whale feeding, let me know! Since everyone else seems to be including pictures, here is a picture of this really cool clip.



But anyway, work is a lot more fun when I am actually accomplishing things on my own, so it's been a good week. I am feeling less like I am out of my depth and more like I can figure things out on my own. It's got me thinking a lot about what sort of things I want to do in grad school (aka, am I prepared to take the plunge and become an engineer for the sake of understanding my whale friends? I don't know)

and what I am most interested in. I guess that's kind of the point of this whole internship, figuring out what I want to do, so in that sense, I am being very successful.

Posted by ejacobs at Jun 30, 2016.

This week we welcomed the third member, Daryll, on the NSF OA project. Each of us are taking a part in abalone development and seeing how climate change stressors affect them. I am looking at pre-fertilization, Aileen is looking at early development, and Daryll is looking at the juvenile stage. This allows us to build a more complete story on the effects of OA on abalone.

Tomorrow I will run a pilot experiment by dissecting one of the males for sperm and creating a suspension of sperm in filtered sea water. I will then sample from this suspension and take video of the sperm under the microscope over the course of 4 hours as well as analyze this video using ImageJ to get data. This experiment will generate a standard curve of sperm motility in response to gamete age. This will be useful in the future, when I conduct my experiment on sperm motility in response to high and low concentrations of pH and dissolved oxygen, as age may play a factor in the data.

Posted by tthisner at Jun 30, 2016.

This week I tried to post a good, long confluence, but waited too long so now I have to start over.
Along with Aileen I've been working on my REU proposal and presentation. I went out on the Carson on Tuesday and it was so fun! It was rough so we couldn't get to the M2 station but I filtered some eDNA and got hit with some water that soaked my pants. Yesterday was a little disheartening after we found there was no DNA concentration in 96 samples I had been working on for the past weeks. Basically during PCR cleanup we take the PCR products and add AMPure beads, beads with an adhesive-like surface to attach DNA. We wash the beads in hopes of ridding the DNA of primers from PCR, BSA and Mastermix previously added. Unfortunately there was something faulty with the beads that caused the DNA to NOT stick so when we washed it with ethanol and subsequently threw it out we (me and Kris Walz) actually threw out the DNA. When we ran gel electrophoresis on 96 samples that had taken lots of hand cramping to pipette, there were no bands. None. Nada. SO THAT WAS REALLY GREAT. But Kris is a saint and stayed late yesterday to rerun 3 PCR plates and she looked at them this morning and everything was good. So we are going to try to do PCR cleanup next Wednesday and hopefully everything goes as it should!

Posted by bcorbett at Jun 30, 2016.

Very productive week with lots of "aha" moments. Using the event detection algorithms, we were able to automatically identify our animals of interest. this is a peniagone that was detected AUTOMATICALLY!!

The next step is to make it do this on purpose... right now it can only tell me that there is something interesting in the screen, not that there is a peniagone in the screen.
We are also moving into the mid-water videos which provide a completely different set of problems. the biggest issue happens to be all the marine snow that the computer finds super interesting. >
Next week is going to be really exciting potentially, but it happens to fall on our short week. The good news is that the ball IS rolling and its rolling in the right direction.
So far we are also finding it takes A LOT of memory and time to do this. We are currently using 7 computers at the same time to run these 3 minute videos!

Posted by dhollis at Jun 30, 2016.

Once again bringing up the rear. I've ade some progress with my matlab issue, by averaging down my time series. I'm still not convinced this is the way to go,but it atlas allows me to look at the rotary variability.

The next big step to take (hopefully this week) is to deal with the spatial variability. Because the platform from which my instruments are taking measurements (the rover) is moving around in space I have to demonstrate that the variability I'm seeing is not do to a changing position.

More to come on this later.

Posted by dburrier at Jul 06, 2016.

31-July-2014

This page last changed on May 20, 2016 by kgomes.

scroll down and click on the add comment button to post your update

9-July-2015

This page last changed on May 20, 2016 by kgomes.

Activities

This page last changed on May 20, 2016 by kgomes.

Use this page to post information about after-hours activities

• June -August - Films in the Forest (http://www.foresttheaterguild.org/index.cfm/films.htm)
• June 17th - Center for Ocean Solutions seminar down in Monterey - "Suing the Service: litigation strategy to end the No Otter Zone"
• June 21st - kayaking with Monterey Bay Aquarium and students from Pajaro Valley High School - part of the Watsonville Area Teens Conserving Habitats (WATCH). 930-1130 followed by a short presentation by you at MBARI. Need four - so far: Rebecca, Hana
• June 25th - Tim Thomas - "The Last Whale Hunt and Other Fishy Storees"; Pacific Grove
• July 18th - Moss Landing Antique Street Fair (http://www.monterey- bay.net/ml/special_events/street_fair.html)
• July 23rd - 31st - Pacific Grove's Feast of Lanterns (http://www.feast-of-lanterns.org)
• August 5-8th - Steinbeck Festival (www.steinbeck.org)

Films in the Forest

This page last changed on May 20, 2016 by kgomes.

Films begin at dusk, and no film is longer than 2 hours. The theater opens at 6:30pm if you care to picnic. Admission is $6.00 for adults and children under 10 are free. Movies are subject to change without notice. Come early; a pillow is recommended for the hard bench, and dress warmly. The concession stand is open through intermission serving popcorn, desserts and beverages hot and cold. All profits benefit the Forest Theater Guild and The Michel Willey Youth Scholarship Fund. The Forest Theater is a non smoking facility, absolutely.

The 2010 Films in The Forest Program is a labor of love of Susan Willey & Megan Terry. The Guild wishes to acknowledge both Susan & Megan for their leadership, support and commitment to the success of the Forest Theater Guild. A portion of the proceeds of this program shall contribute to the Michel Willey Youth Scholarships.

Please visit the Films in the Forest website at www.filmsintheforest-carmel.org.

Tuesday, June 15
THE JAZZ SINGER sponsored by Visions Graphic Design & The Doggie Gazette

Wednesday, June 16
SLEEPER sponsored by The Beach Crowd

Thursday, June 17
CASINO ROYALE sponsored by Forest Theater Guild

Tuesday, June 22
VICKY CHRISTINA BARCELONA sponsored by Inns-by-the-Sea

Wednesday, June 23
CITY SLICKERS sponsored by Blue Adobe Mortgage

Thursday, June 24
LA CAGE AUX FOLLES sponsored by Wells Fargo Home Mortgage

Tuesday, June 29
REVENGE OF THE PINK PANTHER sponsored by Carmel Kiwanis

Wednesday, June 30
MOONSTRUCK sponsored by Kelly Productions

Tuesday, July 6
GOLDFINGER sponsored by Pine Inn

Wednesday, July 7
OCEAN'S 11 sponsored by Friends-of-Film

Thursday, July 8
MEN IN BLACK sponsored by Bank of America Home Loans

Tuesday, July 13
THE PRESENT surf documentary sponsored by Liquid Surf Shop

Wednesday, July 14
BEETLEJUICE sponsored by The Beach Crowd

Thursday, July 15
SHAPED local premiere of a documentary by Walter Georis sponsored by Carmel Valley Art Center

Tuesday, July 20
HAROLD AND MAUDE sponsored by Holly's Noir Night

Wednesday, July 21
MAMMA MIA sponsored by Keller-Williams Realty

Thursday, July 22
SHREK sponsored by Pebble Beach Company

Tuesday, July 27
HOTEL FOR DOGS sponsored by Diggidy Dog and Carmel Drug Store

Wednesday, July 28
MICHAEL JACKSON'S "THIS IS IT" sponsored by Carmel Stamp & Coin Shop

Thursday, July 29
ARTHUR sponsored by J. Lohr Winery

BBQ

This page last changed on May 20, 2016 by kgomes.

Test

News

This page last changed on May 20, 2016 by kgomes.

This page can be used to post information that might be of interest to all interns.
Please begin each entry with the posting date.

-

Opportunities to Go to Sea

This page last changed on May 20, 2016 by kgomes.

If you are interested in getting out on one of the ships, you may be able to go on one of the following dates. More dates will be added, so keep an eye on this page! Let George or Linda know if you are interested (as far ahead as possible).

• June 17th - Melissa, Spencer, and Hank - need to be at dock by 0630
• June 18th - Point Lobos - Chaffey; Roman and Katie
• June 22nd - Point Lobos - Rebecca
• June 24th - Point Lobos trip: Aaron and John
• July 1st - Benthic ROV Cruise (six spots available); contact Linda or George if you are interested. Hana, Bartolome, Daniel, Sara, Katherine, Matthew

- July 1st - Zephyr - Sandeep

still need to get on the boat:

Isobel, Sandeep, Christopher

Before going out to sea (ask Linda if you have questions; there is some on her desk near the phone):
Dimenhydrinate (50 mg) - same thing as Triptone or Dramamine: 0.5 to 1 tablet before you go to bed

In the morning:
Another 0.5 to 1 tablet as soon as you get up (this needs time to work - if you wait until you are on the boat, it is way too late) along with 1 caffeine tablet.
Eat something bland like bananas , graham crackers, saltines, Ensure
NO coffee or juice (too much acid)

Four hours later (depending on how you feel - if it is very calm out there, you might be able to skip this)
Another 0.5 to 1 tablet, and 1 caffeine tablet
Eat something bland like bananas , graham crackers, saltines, Ensure
NO coffee or juice (too much acid)

Recreational Activities

This page last changed on May 20, 2016 by kgomes.

Schedule

This page last changed on May 20, 2016 by kgomes.

- MBARI closed: June 18; July 2, 5, 6, 16, 30; Aug. 13.
- June 14th - MBARI interns arrive and start their program
- June 14th - Summer Intern Cookie Break
- June 15th - MBARI Blood Drive
- June 16th - Glenn Chen Seminar
- June 17th - Center for Ocean Solutions Policy Seminar
- June 21st - Kayaking with MBA. 9-1130
- June 21st - Intern Meeting 0830-1030 in Tank View Conference Room
- June 21st - Project update. Josi Taylor
- June 28th - Proposal Workshop 11-12 in Pacific Forum, Linda in San Francisco
- June 29-30 - Day of Science, Engineering, and Technology/ MBARI Board meeting
- July 5th and 6th - MBARI holidays
- July 7th - Ari Shapiro Seminar
- July 11-16 - George out of the office
- July 12th - Project Update. David Clague. Submarine Volcanism
- July 19th - Project Update. Gene Massion. McSTAR, Linda in Washington DC (19-21st) for Deep-sea coral workshop
- July 21st - Interns host BBQ, Mark Abbott Seminar
- July 28th - Dijanna Smotherman Seminar
- July 31st - MBARI Picnic
- August 1st - MBARI Golf Tournament
- August 2nd - Project Update. Andreas Hofmann. Anthropogenic Ocean Acidification
- August 4th - Amber Mace Seminar
- August 14th - MBARI OPEN HOUSE
- August 18th - MBARI Intern Symposium at MBARI

DOEST Agenda

This page last changed on May 20, 2016 by kgomes.

looks better in the attached pdf

AGENDA
Day of Engineering, Science
and Technology
Tuesday, June 29, 2010
8:45 a.m. - 4:00 p.m.
Pacific Forum (except as noted)

Theme: Looking to the Future
Time Title Presenter(s)
8:15 - 8:45 Breakfast
8:45 - 9:00 Introduction Chris Scholin
President and CEO
MBARI Pushing the Envelope
9:00 - 9:30 Controlled, Agile and Novel Observing
Network (CANON) Francisco
Chavez
Senior Scientist
9:30 - 10:00 Vision for the technologies
of the future
Jim Bellingham
Chief Technologist
10:00 -10:30 Data from the depths around the clock
(MARS)
Craig Dawe
Technical Support Manager/
MARS Manager
10:30 - 11:00 BREAK
11:00 -11:30 The ocean in a high CO2 world,
from deep to shallow
Peter Brewer
Senior Scientist
11:30 - 12:00 How do we observe biogeochemical
cycles at the global scale in a
changing world?
Ken Johnson
Senior Scientist
12:00 - 1:00 LUNCH - Pacific Forum
Persistent Presence
1:00 - 1:30 Group 1 (Test Tank)
Long Range AUV
CANON Field tools
Moored ESP
Group 2 (Building D High Bay)
Benthic Imaging AUV
MBARI new vessel designs
Brian Kieft
Software
Engineer
Thomas
Hoover
Instrumentation
Engineer
ESP Team
Brett
Hobson
Mechanical
Engineer
Keith
Raybould

Chief Operations
Officer
1:30 - 2:00 Group1 and 2 switch
2:00 - 2:30 BREAK - Walk back to the Pacific Forum
A Look Forward
2:30 - 3:00 Extending an autonomous presence
(wave-powered buoys
and AUV docking)
Andy Hamilton
Systems Engineer
3:00 - 3:30 Ocean visualization
Dave Caress
Software Engineer
Brian Schlining
Software Engineer
Brett Hobson
Mechanical Engineer
3:30 - 4:00 Exploration and discovery: careful
plans and serendipity
Bob Vrijenhoek
Senior Scientist
4:00 - 6:00 Allhands reception in Atrium
Posters in the Pacific Forum
? Sediment traps and ROV operations under
icebergs
? High-Resolution AUV Mapping Reveals
Structural Details of Submarine Inflated Lava
Flows
? Topography within the axial channels of
Monterey and Soquel Canyons
? Development of a High-Resolution Shallow
Seismic Refraction Tomography System at
the Monterey Bay Aquarium Research
Institute
? Distinctive Fine-Scale Morphology of Hydrate
Ridge
? Fine-Scale Morphology of Gas-Rich Sites on
the Cascadia Margin Near Bullseye Vent
? Fine-Scale Morphology of West Mata Volcano
and the Northeast Lau Spreading Center, Lau
Basin from AUV Multibeam Surveys
? Connecting an Ocean-Bottom Seismometer
to a Seafloor Cabled Observatory: A
Prototype System in Monterey Bay
? Development of in situ Respirometers for
Ocean Acidification Studies
? Time series analysis of six whale-fall
communities in Monterey Canyon
? Cataloguing biodiversity in the deep-sea:
tools, techniques, and challenges
? Remote Detection of Marine Microbes and
Functional Genes Using the ESP
? Brett Hobson
? Dave Clague
? Eve Lundsten
? Rich Henthorn
? Charlie Paull
? Hans Thomas
? Dave Caress
? Paul McGill
? Michael Risi, Craig Okuda,
Bob Herlien
? Kyra Schlining
? Nancy Jacobsen Stout

? ESP Team member

This Week

This page last changed on May 20, 2016 by kgomes.

WEEK TEN
9 am Test Tank

I. Review, preview, and updates

- Presentations: easiest to use Tempest/PacificForum for your presentations - check to make sure that they work.
- Future: Addresses and updates
- Presentations: easiest to use Tempest/PacificForum for your presentations - check to make sure that they work.
- Pronounciations?

II. Individual updates

- ? Check confluence for updates MISSING: ROMAN, JOHN, IZZY, AARON

III. Past events

- A. August 10th - Katie Lodes (10 am)
- B. AUGUST 14TH - MBARI OPEN HOUSE

IV. Upcoming events (see MBARI calendars and/or intern calender)

- A. Moving out
- B. Inventory
- C. Departing - rides?
    - Sandeep
- D. Intern T-shirts
- E. 2 hard copies, 1 electronic copy (my tempbox), id card, key card, evaluation....
- F. INTERN SYMPOSIUM

V. Seminars coming up

- B. August 17th - John Horne (1 pm)
-     - George will be leaving early most of this week (rehearsals)

Wednesday 2-July-2014

This page last changed on May 20, 2016 by kgomes.

Finally on time with this! Although this week has been short, it has also been very productive. Yesterday I ran PCR using tissue from a second species of squid (Pterygioteuthis), and today I'll move on to the third species (Phylliroebucephalum, not a squid but most likely has photoproteins). I also cut and processed some promising bands out of my Dosidicus gel, which will be sequenced sometime next week. Overall, my lab days have a pretty good rhythm now: plan out PCR, run PCR, pour gel, image gel, troubleshoot. Excited for the long weekend!

4th August 2011

This page last changed on May 20, 2016 by kgomes.