

Space Details

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Home

This page last changed on Jun 08, 2011 by [linda](#).

This is the home page for the Summer Interns space.

Schedule

Refer to the Summer Intern Calendar (Outlook Public Folders)

Weekly Updates (Please Report by noon Thursday)

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Comments

I have succeeded in rescoring the key in it's new state, which is more flexible with regards to body form. This took somewhat longer than expected but was completed by Tuesday afternoon. Once the key was rescored I had Steve take a look at it, and his more discerning eye pointed out a few areas that could be improved to make the key more accurate and easy to use. I am presently implementing the changes he suggested, which are for the most part, minor.

Once these changes are done then I believe the key will be in a relatively complete state. The hope is then to send this prototype to noted ctenophore taxonomist, Dr Richard Harbison to get a second opinion on its reliability and structure. While awaiting his comments I will begin my presentation and report for submission in a fortnight's time.

was lucky enough to take a trip up to UCSC this week and was truly enamored by the campus, it seems like a wonderful place to learn. Also slugs and deer.

Posted by [kmcconville](#) at Aug 03, 2011.

I have completed most of my laboratory work. Today I dissected the last batch of specimens. Hope to complete these tomorrow. Also I have started to work in images with imageJ. I am trying to find a method for counting age bands. As there is lot of seasonal bands in my specimens, it's confusing some times. Anyway hope I can figure out everything within next week. This week is really busy.

Posted by [gayani](#) at Aug 04, 2011.

So this week I finished most of my analysis, wrote bits of my paper, and am working up a title.

Right now I have gotten as far as "Squishy Things in the Deep" but somehow I don't see that going over very well.

Next week will be more finishing up and doing some fun things with a microscope if we have time.

Posted by [ethompson](#) at Aug 04, 2011.

This week essentially saw the end of my project unless things dramatically change within the next week. There has been quite a bit of ups and downs over the past few weeks and it appears the necessity and goal of having the Wave Glider ready to go for deployment by September has faded. Currently the OA1 mooring is producing some funky data, so it has become the priority of the BOG to prepare another OA mooring for deployment by the beginning of September. This affects my project because some of the key elements that had to be designed or manufactured by next week will not be taking place. I was hoping to run the Wave Glider OA electronics as part of my presentation, but it looks like that won't be possible. The code for the OASIS controller (which essentially runs and communicates all of MBARI's electronics) was written by Bob Herlien and it seems to be acting a little funky right now. Furthermore, we have added a CO2 standard tank to the Wave Glider drybox. This requires an additional valve, which means there needs to be code written for the OASIS board to communicate with the extra valve. This needs to be done by Bob, however he might not be able to do that as soon as hoped, especially if it is no longer a priority. What seemed to be a pretty straight forward project doesn't seem like it will be completed, however I certainly learned quite a bit about the OA sensor system and what it takes to put together such a system.

This week I fiddled with the Wave Glider communication through the Iridium burst communications. This was established by creating an account through Liquid Robotics. The GPS also worked, as did intermittent recordings of location, speed, temperature and battery life. The system did act a little funky, however it may have occurred because we don't have all of the needed parts. This week I also worked on my paper, which is nearly complete and I also submitted an abstract to the AGU meeting taking place in San Francisco in early December. I hope to present a poster about the MBARI integration of OA sensors into a Wave Glider titled, "The Wave Glider: A New Autonomous Surface Vehicle to Augment MBARI's Growing Fleet of Ocean Observing Systems." Next week I will finish my report and presentation and will hopefully also help build the new OA mooring. And perhaps, out of some miracle, I may be able to get the Sensor package working!

Posted by [btougher](#) at Aug 04, 2011.

This week started with an interesting road trip along the San Andreas Fault, including delicious lunch and some high quality gawking at crooked houses and fences. Over the last few days I have been working on an outline and abstract for my paper. If we can complete an abstract today I may be presenting my internship work at AGU in December. Such are deadlines! I finally have gotten my satellite temperature converted to pH codes to run, and next week I will be thinking about how to apply that visual tool.

In a poetic way the week will end tomorrow in Tomales Bay (the end of the San Andreas fault), where I am going to explore a shellfish farm. I will be looking for ways to tie the theoretical research on ocean acidification to the practical application of shellfish farming.

Posted by [sbuckley](#) at Aug 04, 2011.

This week I mostly worked on analyses and making figures for the paper and presentation. I finalized all the data for the mitochondrial loci, and so I was able to run AMOVAs for the complete data sets, and make tables from the results. I was also able to make the final haplotype networks for these two loci, and make them pretty in Adobe Illustrator. I also used Illustrator to make pie charts of the haplotypes found at various latitudes and place them on a map, and it was very interesting to see the gradient. I am currently running another analysis that Shannon thought would suit my data, and some preliminary results looked very good. It is on a program called IMA2, and it looks for patterns of migration between different populations, and time since divergence.

Today I volunteered for the Young Women in Science program, and it was really fun to see young girls getting excited about learning and biology. I also started one more attempt at getting data for a nuclear locus. We got results previously with a primer set for an intron in a heat shock protein (HSP), but the sequences were not quite clean enough, so we are now running them in the thermal cycler on a longer program in hopes that this results in a cleaner product. Next week I will find out if that works, and if it did, I will try to knock out all my samples as fast as I can, and work on the paper and presentation when not in the lab.

Posted by [vflores](#) at Aug 04, 2011.

This week I finished processing the Raman data from my ternary gas standards, which serve as the last check against the binary standards I made up earlier in the summer, and are crucial in determining whether there were any unforeseen reactions in the impure gas. It appears that these are minimal, thankfully, and everything appears to have checked out well. In addition to that, I have been packing up pallets with Peter Walz and preparing for my talk in a few hours. I gave a trial run to my lab yesterday, which I was incredibly nervous for, but it went fairly smoothly and I have done my best to integrate their comments.

Next week I will be on the Western Flyer off the coast of Oregon/Washington/BC looking at real life hydrates! I am incredibly excited, but it also means today is my last day at MBARI. I will miss it immensely, and thank you all for making this summer so wonderful! I'll see everyone at noon!

Posted by [ecoward](#) at Aug 05, 2011.

This week I was finally able to make the taxonomic tree fully expandable, collapsible, and searchable (with pressing enter to search and highlighting the current result). I was also able to make it so any search box can either do the search based on the page it's on or any other type of search if a different nav bar link is clicked. The data use policy page is working as well. Brian modified my representative images algorithm to make it faster, which is good for the higher level concept pages. I downloaded screen capture software and began experimenting with recording the DSG's many functions (which helped me find many bugs...).

In this next week, I will finish a couple minor things in the browse tree, including only re-expanding a node to only the first child and adding an "expand all button option. I will also add columns to the comparison table that we mentioned last week. I have yet to hear back from the video lab whether or not to implement a menu to customize the columns, or just have all the columns show up as the default. I will also work on my paper and the video of the functionality of the DSG in case I cannot manipulate it live on the Pacific forum computer.

Posted by [ecurles](#) at Aug 05, 2011.

The geology field trip on Monday was great, I'm really starting to appreciate what my geologist housemates have been going on about all these years (usually I go to their talks out politeness, smile and nod the whole way through).

This week I have been using the Benthic Terrain Modeller to zone each of the canyons into various topographic groupings (flat, slope etc). This was a bit trickier than expected because all the tools are design to work on relatively level terrain, the inherent slope of canyons confound it a bit. However, after a bit of tweaking with zonal definitions this was sorted.

Following this, I am identifying and extracting p/a and environmental data from each of my subsamples on the transects, this takes a fair bit of time but once it is done it's just a case of plonking my data into PRIMER for analysis. The PERMANOVA add-on for PRIMER should hopefully arrive today but if it doesn't come I have managed to work out how to run the test using R, slightly more complicated but needs must.

Posted by [gduffy](#) at Aug 05, 2011.

In addition to what most of the interns have expressed in their views on the Geology field trip, I must say I was slightly taken aback by my own genuine interest on a topic I had limited knowledge. I thought the way Gary presented his knowledge and expertise on the local geological area was very impressive!

This week I have been learning how to construct a confusion matrix to put all my data in a more manageable and easier-to-read format. I have results, but not happy with them so I have re-processed my entire data-set with a new training library (a more 'spruced' up version of the one I had) using the batch classifier. I ran the same training library with my random sample set and so far the values look a little more promising.

I have climbed a huge learning curve for me in terms of understanding the somewhat complex concept behind testing accuracies of classification systems in artificial intelligence. I plan to plot ROC curves which I have never done before, so that will also be the next step in terms of learning something brand new! An ROC curve basically tells you how accurate a particular classification system is, mainly derived from values from the confusion matrix. It will hopefully evaluate the standpoint at which AVE DAC is in terms of its development.

On the side, I have been tweaking my Intro and Methods section which I think is complete. I have also been drawing up an outline for my presentation.

Next week I plan to finalize extracting my results, write up my Results, Discussion and Conclusion and work on my presentation. I also plan to end this madness I am having with the French regarding grad school which is also looming! It appears I am lost in translation.

Posted by [gbwy](#) at Aug 05, 2011.

This week, have not too much done yet, Collect some laboratory data but the MATLAB program was running slowly, I am still working on the programming stuff and try to do more Acoustic signature analysis in the end of week.

This week, I also worked on the paper a little bit and find out how to organize the paper, started to write.

Next week, try to complete the tank test and get acoustic data. Make good MATLAB program to deal with acoustics analysis. Complete the paper & presentations by next Friday, makes everything ready for the final week.

Not sure how far my project will be got, but I will keep working on that till the end of intern work. Good luck for me.

Posted by [mcai](#) at Aug 05, 2011.

This week saw the collation of results for my paper. It is on track to have a draft finished early next week, which means that hopefully it will be ready for submission by the end of the month.

I have also started looking at approaches for broadening the problem beyond just "front detection" to "water mass discrimination." Some early models using a simple K-means clustering algorithm have shown some promise. The primary problem with this approach is knowing a priori how many different water masses might exist in a given data set. So next week's problem will be figuring out a way to determine how to train the clustering system on enough different data sets to generate a reasonable

set of centroids that can then be applied across all data sets. The advantage to such an approach is that it can be applied to any sort of ocean feature one might be interested in. It also can allow scientists to specify the parameters of what they consider an "interesting" water mass, and then the system can just apply the appropriate cluster to determine what to look for.

Posted by [jgottlieb](#) at Aug 05, 2011.

This week I spent a large chunk of my time researching the internal anatomy of cnidarians as well as working out the necessary steps and equipment needed for preparation of soft-bodied organisms for the SEM. I conducted some gut contents analysis on Atolla preserved immediately after capture aboard the Western Flyer, which yielded little results but the few that were observed proved interesting. Toward the end of the week I was informed I would be able to get back more histological slides of Atolla tentacles, so I prepped some more samples for the histology lab and dropped those off at CHOMP. At this rate the next two weeks are going to be jam packed with things to do in order to get ready for the final presentation and paper.

Hasta luego amigos!

Posted by [awalker](#) at Aug 11, 2011.

07-July-2011

This page last changed on Jul 07, 2011 by [jgottlieb](#).

Weekly updates for July 7th

Comments

Obviously, much of the week was consumed with the holiday weekend. We spend much of having BBQs with various friends, but on Tuesday we took the munchkin to the Aquarium. She really liked the colorful fish:

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She was also a big fan of the penguins playing in front of her:

Cannot resolve external resource into attachment.

And petting the starfish:

Cannot resolve external resource into attachment.

though we're mainly glad she didn't try to eat it.

In work related news, I completed my front-identification system only to realize I had no baseline for comparison. So I've written a program to allow a couple of the scientists to go through the raw data and tag where they believe the fronts are. Then I can compare my results to theirs to measure the accuracy of my system. I'll get tags on Dorado and Martin data and use those for interpolating tags in Tethys data.

I've also started writing up my work for a journal article we hope to submit once all is said and done this summer.

In the coming week I'll be meeting with a couple of scientists for the tagging. I'll also be working on integrating the results from all the various CTD measures that Dorado, Tethys, and Martin take into one comprehensive estimate of where a front is located. Once that is done, I have some papers on detecting fronts using satellite SST data which I will use to start the process of integrating mooring, SST, and Sergey's LCS data in with the AUV & Martin data to further enhance the picture of where a front is located. The eventual goal is to be able to do this in something close to real-time as the data arrives on-shore. Eventually I will also develop an in-situ version that could be placed on Dorado itself.

Posted by [jgottlieb](#) at Jul 07, 2011.

Most of this week was spent in Las Vegas with friends...I won't upload any pictures. I also flew from Vegas to the Grand Canyon, which was pretty awesome! Flew over the Hoover Dam, landed near the national park, quick bus/walking tour of part of the park, helicopter ride over/through the canyon, back on the plane, in Vegas by bedtime.

Yesterday I formatted some of my data to run it through PRIMER. While the analysis is still showing discrepancies based on the year sampled, my efforts to standardise/clean-up the data appear to be working somewhat. Fingers crossed when I've gone through all of the tapes I'll be able to say for sure what effect environmental factors are having of the faunal composition of each canyon.

Next week will involve going through more videos...still a long way to go but I'm getting there.

Posted by [gduffy](#) at Jul 07, 2011.

So I am doing another dive- I'm proud of myself though..... I didn't run screaming 😊. Dive 231 is going much faster than the previous one. I am on day two of annotating the dive and have made it through nearly five tapes. The measuring will go much faster also, since there are fewer sea cucumbers in this dive. Next week I will begin the dissecting of the specimens sampled on the last trip to station M. This means I am doing lots of reading up on the anatomy of a sea cucumber so I am able to locate the gonads and be able to tell if they are full of gametes or not. I will also begin to analyze my data to a small degree so that I know what I am doing later when my mentors are not here and I am writing my paper. I am also hoping to begin the time lapse photography next week, but we will see what happens.

I had a very lovely weekend with my fiancé and our families. We went to the beach and had multiple bbqs and ate way more junk than we will ever need 😊 My kind of weekend. Oh and the aquarium was awesome! as usual

Posted by [ethompson](#) at Jul 07, 2011.

This week I have been in Costa Mesa (LA) at a workshop on the effects of ocean acidification on the shellfish industry. It has been really exciting and interesting, and has given me plenty to think about in terms of my internship. I'm learning about how scientists interact and make decisions, and how the stakeholders and community use that information. No pictures, but the hotel and the food have been fantastic. The people are interesting. I have plenty to work on next week, pulling together information and data!

Posted by [sbuckley](#) at Jul 07, 2011.

well starting with holidays I spent great time in riverside and disniland. back to work , I was successful with another spawning experiment. at last manage to collect some female gametes. also I continued my work on age determination. now I'm looking in to banding patterns of test plates. hope to finish as much as samples during next week.
I

Posted by [gayani](#) at Jul 07, 2011.

During this very short week I have continued DNA extractions for tubeworms from sites I don't yet have samples for, although next week will require some freezer-diving to complete the collection. I have also been trying to finish PCRs for the COI and cytB genes for all the DNA samples I have so far, and I am almost there. I am also editing DNA sequences.

Next week I will work on primer design and hopefully get reactions to work for more nuclear genes. I will also work on sequencing the remaining COI and cytB reactions, and editing the sequences.

Posted by [vflores](#) at Jul 07, 2011.

Hope everyone's holiday was fantastic!

Although this has been a short week it has been a fruitful one. I was able to prepare and get my preserved *Atolla* samples in to the histology lab at CHOMP. The slides should be ready in the next few days and I am beyond excited to get them back! I was also able to procure some small medusae and ephyrae from Monterey Bay Aquarium, which I intend to "feed" to the *Atolla* and closely monitor their reaction. Unfortunately I have had a die off in one of my kreisels so currently there are only four *Atollas* remaining. Not to fret, these deep-sea jellies have made it for 3 weeks in captivity, which is longer than expected. So I am still positive and striving to keep the remaining individuals for as long as possible. Next week will be a very exciting one, which will likely provide a wealth of new information on these mysterious *Atolla* jellies.

Have a great weekend!

Posted by [awalker](#) at Jul 07, 2011.

Yesterday, I generated several figures from the CH₄/N₂ and CO₂/N₂ profiles I've produced, which will be used in two of the upcoming publications from the Brewer lab. It always amazes me how much effort each one takes, but I've been chugging through the massive spreadsheets I've made fairly quickly now. Today, all three of the computers that I normally work with had various technical issues, and so I spent the bulk of my day trying to resolve those rather than working through my new set of samples. It has been a fairly frustrating process, but hopefully everything will be up and running shortly. Next week, Peter Walz will be back in lab and I will hopefully be able to chemically and mechanically describe the physical processes clathrate hydrates undergo as they are recovered from the seafloor using these profiles, videos of their acquisition by the Doc Ricketts and thermodynamic calculations.

Posted by [ecoward](#) at Jul 07, 2011.

Over the past week I have spent the majority of my time refining the ctenophore categories I organised previously. My groups have decreased in number from approximately 35 to 18 as I became more familiar with the organisms.

After considering other conflicts of interests, we've decided that it may be easier to look at different taxon, as Ctenoceros is already well documented. At the moment I am adding to table that Steve created documenting many of the known ctenophores, and their morphological characteristics. My task is to add more morphological characters and input the categories I defined from the VARS data.

Next week I will likely be using high quality lab photos to add further morphological characters to this taxonomic table, hopefully shedding more light on the relationships between these taxa.

Posted by [kmcconville](#) at Jul 08, 2011.

The last week has been short and sweet. After a good little trek with Kristian and Katie (Loweth) on Sunday in Big Sur, it was time to finalise a few things before running the batch classifier. This is essentially a method that I will test to see how successful the classifier at doing its job autonomously without my aid. The image library I have created should be adequate for AVEDac to detect and differentiate between species against a unannotated data set. The tricky part is trying to minimise the amount of visual noise the detector is picking up. It is involving a lot of editing of the images (with a hint of patience) and re-testing. I am happy to see how well AVEDac can track a mobile organism, and even more happier that I have finally managed to get the classifier to differentiate between a Rockfish and Squid!(I basically just removed the 'squiddy lookin' rockfish from my image library!). Hopefully I will find some squid using this method. If this is a success, then it means I can use it for more and more data. While there are still a few bugs in the AVEDac tool, my mentor has been a hero and was working hard to correct the glitches and help process the data from home!

Monday is a big day. I plan to test the batch classifier against a data set and see if it can detect and classify by itself! I am also planning on meeting up with a researcher who I got in contact with from Hopkins Marine Station to have a chat about a few things regarding squid behaviour!

Posted by [gbwy](#) at Jul 08, 2011.

This week is a Short week, back from the long holiday. Enjoy the holiday, one day of them was in Yosemite, awesome national park. Thanks for my mentor getting me there.
This week, I don't have much work done, still figure out the beagleboard and have hard work to boot the linux system. Spend two days finding related websites and documents, and learn by myself to fix the problem. Still ongoing...
Also, I start to learn some software installed in the board system, like ALSA (Advanced Linux Sound Architecture), Universal Backup Device server, USB Flash Drive, National code for C, C++.
Learn Embedded Linux development using Eclipse, a little long time working on studying.
Working on the wire of McStar hardware, and prepare for the test next week.

Next week:

The main thing is to do the real test .

Monday Meeting with Wayne and Gene, plan the test in the following weeks.

Start to fix all the electronic stuff in McStar, and get it ready.

HOPE NEXT WEEK< EVERYTHING GOES WELL.

Posted by [mcai](#) at Jul 08, 2011.

Well I nearly forgot about the update. Short week but still productive. I finished designing a mounting board for the various electronics that will be mounted on the lid of the aft dry box. Yesterday I received the fiberglass that was needed to create the mount and today I cut out the design and drilled the necessary mounting holes. To my delight the dimensions were correct, so the mounting board was successfully screwed onto the lid. Next week I will be attaching electronics to the the mounting board so that I can begin connecting the plumbing and wiring. This week I also created a power point with conceptual images of the main tasks that need to be completed for this project to be a success. Next week I will also begin understanding the Wave Glider communications to ensure that our OA system can speak with the Wave Glider communications and command.

Posted by [btougher](#) at Jul 08, 2011.

08-July-2010

This page last changed on May 27, 2010 by [linda](#).

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11-August-2011

This page last changed on Aug 10, 2011 by [mage](#).

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.

Comments

Nine weeks passed. Time flies!!!! At the end of this week I have completed all my laboratory work and analysis. It was a hard and busy week. So, now just trying to put together different pieces of the urchin story. Final results are really interesting. I'm working on paper as well as the presentation. Hope to finish both by the week end. I'm planning do my practice talk to my laboratory members on Monday.

Posted by [gayani](#) at Aug 11, 2011.

I concur that despite knowing it would probably go very quickly, I am still surprised to be seeing the finish line.

Key has been pretty stable for the past week or so. There are a number of benthic ctenos that really don't score well into the key. This is probably because it was designed originally for cydippids, which have a pretty different morphology to these derived benthic forms. I am currently leaning towards not scoring them fully, as I do not feel that their comprehensive inclusion would aid the main goals of my project.

My presentation is complete, and I have good idea of what I wish to say, but I haven't yet put the two together. I will probably learn it over the weekend.

Finding the report difficult, as I'm sure is the case for many people, I don't feel that my project fits well into the normal report framework. I am getting there slowly.

I'm doing my best not to sound too final, but it does appear like all things, our time here is coming to an end.

Posted by [kmcconville](#) at Aug 11, 2011.

As it is the week prior to our presentations and papers deadline, it feels like a mad rush to organize and complete the data analysis of Atolla research. On Monday I finally prepared my Atolla tentacle sample for the SEM using the chemical drying method with HMDS, so together with Osmium, Monday was a toxic chemical day and very exciting. Tuesday I was able to take my samples to MLML to take a look through the SEM and the results were fantastic! Thank goodness the HMDS protocol worked and I was able to get some pretty great photographs of Atolla tentacles. Wednesday I was living in the videolab looking for good video clips and collecting more observational data for the presentation. I will be going back to MLML to finish getting pictures of the tentacle in the SEM today as well. As I only have the bare bones of my presentation, I figure I will be spending most of Friday, aside from trying to decipher the SEM and histological slides, putting more substance into my presentation. Luckily I have the entire weekend to complete and practice my talk.

Good luck everyone and have a lovely weekend!

Posted by [awalker](#) at Aug 11, 2011.

This week I spent some time exploring my data to see what kind of dispersal models these tubeworm populations fit. We are investigating isolation by distance and migration models to get an idea of how the larvae move around the vents along the east Pacific rise. I have spent a lot of time in Bob's office the past couple days and have gained a lot of insight as to the theory of these ideas. He is also teaching me how to run a Mantel test in Arlequin, to find the correlation between geographic distance and genetic divergence. I have gathered a lot of figures for the paper and presentation, and am slowly making progress on those as time dwindles. I am hoping to give a practice talk to my lab on Monday so I can incorporate feedback by practice time on Tuesday.

Posted by [vflores](#) at Aug 11, 2011.

This week I largely finished the first draft of our paper. I also carried out some preliminary analyses comparing my results to Sergey's LCS results. The result of this is interesting, but not conclusive yet.

That'll be paper #2, I suppose. I also did some initial work with clustering algorithms that yielded some promising results but, again, nothing worth writing up yet.

Currently, I'm working on applying my algorithms to real-time Dorado data. The results of this will determine whether we run my stuff on-shore during the fall CANON experiment.

Posted by [jgottlieb](#) at Aug 11, 2011.

Time has flown by, and this week has been spent pulling together science data and information into some sort of cohesive story. Last friday I got to tour the Hog Island Oyster Company, where I ate an oyster and learnt facinating information about what makes an oyster farm successful. The next few days will be more pulling together of data and informations and making my story make sense.

Posted by [sbuckley](#) at Aug 11, 2011.

Data analysis is pretty much done, just need to pull it all together as a nice neat package and I'm set. PERMANOVA took a while to get my head round but we got there in the end. The findings are a bit different than what we were looking in to but generally not very surprising as they follow an age-old trend. Still very interesting stuff.

Should hopefully finish off my presentation and paper this weekend...

Posted by [gduffy](#) at Aug 11, 2011.

This week I worked on my presentation and final paper. Both are nearly complete, however I will be polishing them up next week. I also have been gathering everything that I have been working on this summer into one folder so that everything is organized for other people in my group. Tomorrow I will be visiting Liquid Robotics to discuss the integration. Although this meeting is coming a little late, it will be nice to see what ideas Liquid Robotics has in mind for design and integration. Needless to day, the time went by very very fast, and I am shocked that it is over. They should make the internship 30 weeks!

Posted by [btougher](#) at Aug 11, 2011.

This week I have been working on both my presentation and report. I have results but trying to change the parameters of my training library to try and find 'the sweet spot' for classification. While it is proving to be somewhat challenging, it is very interesting to see how the addition or removal of an image class can significantly alter the classification values. I have been trying all sorts of combinations to see what works and what doesn't. The more I work on this the more I realise that there is no immediate exact science to autonomous classification!However, it also seems that there are new AVEDac doors opening from some of the results I have.

I hope to finish my presentation by the weekend for practicing early next week and also get my report finished early next week. Of course, this is entirely dependent on how much playing around with AVEDac I do in terms of picking out the best results to display!

I agree with Brendan, a 30 week internship would be awesome.

Posted by [gbwye](#) at Aug 12, 2011.

This week, I have worked for 7 days, finally got the experiment done and had the experimental data for analysis.

I have done the lab test on Wednesday, set up everything and prepared for the tank test.

Because I donot have tank training, the mentor Gene Massion was so busy during the weekday, so we decided to do the tank test on Sunday, we spent 5 hours to pack up and seal the McStar. And then collect the acoustic data.

Next week(the last week), try to finish the paper on Thursday, and prepare the presentation on Tuesday and Wednesday, leave the best results in MBARI and send the best wishes to everybody. Hope I can have a chance to come back MBARI for further work. Thanks to Confluence to track my work schedule, be happy to work on this every week.

Posted by [mcai](#) at Aug 15, 2011.

I am working on my paper and finished most of my presentation.

this week I finish the paper and try not to die 😊

Posted by [ethompson](#) at Aug 15, 2011.

I can't believe the internship is really almost over! Sorry for being late again. Last week I added a few finishing touches that the video lab asked for. I also spent a couple days testing the DSG in every major browser to be sure everything would work for everyone, in case it ever goes external. After much frustration with certain browsers (especially one by a certain large search engine company... *cough cough*), the DSG now works in every browser (I've heard of some problems in Safari, but I've been unable to replicate them). So now the DSG is officially finished for the summer.

This week I will be finishing my presentation (including videos!) and paper. I will also be cleaning up the code I've written (aka removing any old/unnecessary code). I'm so excited to present and finally learn in-depth about everyone else's projects!

Posted by [ecurles](#) at Aug 15, 2011.

14-July-2011

This page last changed on Jul 14, 2011 by [kmcconville](#).

This has been a week of good progress as I 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.

Comments

This week I designed an additional mounting board from the dry box lid, which will allow for easy access and maintenance of the A to D board and the Chamber Controller. Included in this process was the overlapping of these two circuit boards using stand offs and spacers, which proved to be challenging due to limited space. I also attached a pump to the mounting board as well as the Oasis 4 board which is the most critical component of the integration process. With these main components attached (the Licor, Oasis 4 board, pump, A to D, Chamber Controller) it appears that we will have sufficient space for the remainder of our needed components. On Monday Francisco and I also met with a Liquid Robotics employee, Luke (a former MBARI employee), and discussed potential fusion of our OA sensor package with future Liquid Robotics Wave Glider deployments, particularly a mission that entails one Wave Glider traveling from the US to Australia and the another from the US to Japan. It would be extremely exciting if our package were a part of that mission, which is set to start in September! Today I will begin wiring the parts together by following the OA sensor suite that was designed for the OA moorings. Yesterday I went on the MARTIN and helped cast a CTD for sampling of chlorophyll, O₂, nutrients and POM at five different locations within Monterey Bay. During this process I filtered the samples collected by the CTD while the ship moved to different sampling locations, which proved to be tricky due to swells and brief gusts of wind. All in all the cruise was super fun and I learned a lot! This afternoon I will be testing some of the chlorophyll samples with a fluorometer down in the Rad Lab.

Next Week: I plan to complete the wiring and will hopefully be able to mount a soda lime (to strip the CO₂ from air within the drybox), a dryer (to remove moisture from the dry box), a CO₂ sample, and the critical air filter block. Once these are installed and wired, I will need to install bulkheads to the top of the lid, which will be used to link our internal plumbing and wiring from inside the dry box to our external surface and subsurface sensors.

Posted by [btougher](#) at Jul 14, 2011.

busy week. I managed use the polishing equipment at mosslanding marine laboratories. It made me easy and quick. managed to complete more specimens. Though out the week I was preparing specimens for polishing (dissecting, beaching and drying). now i'm on the process of photographing and counting bands in urchin plates. also trying to induce spawning of urchins using thermal stress method.

next week i'm planning to work on rest of the specimens. also hope to start writing.

Posted by [gayani](#) at Jul 14, 2011.

Most of this week I spent on the computer program Codon Code Aligner editing sequences that were run last week, which are mostly looking good, although there were a few sloppy sequences for which I had to run new sequencing reactions with an internal primer. I also finished DNA extractions on the samples I have to work with. Today I am completing two plates of sequencing reactions to run in Lola tonight.

Earlier this week Shannon and I designed some Tevnia-specific primers for a heat shock protein gene from a sequence she found in BLAST. We also ordered one additional nuclear gene primer, so for the rest of the day and next week I will be doing PCR and hoping that I can get results for some nuclear loci. We also got more cytB primer, so I can finish the PCRs for the remaining samples for that gene. There will also be much more sequence editing for me to enjoy.

Posted by [vflores](#) at Jul 14, 2011.

By the end of the day I will have hopefully finished the tapes from Mugu Submarine Canyon, only La Jolla left to go! Once that is done I'll have a nice dataset to play around with. During the process of reviewing the dives I have been classifying areas sampled into various types, this will hopefully allow me to factor in at least some of the heterogeneity that is seen within submarine canyons when I am doing my analysis. I've also sorted out my ArcGIS maps so that I can easily generate profiles of the canyon at various sites along the axis.

Next week I'll hopefully finish off La Jolla, and address any ID issues that still remain. Then I can start playing around with my dataset and determine what environmental factors are affecting the faunal composition of the canyons.

Harry Potter tonight! {~8-D)

Posted by [gduffy](#) at Jul 14, 2011.

This week I've been working on validation. Turns out my previous approach was a total dud, so now I'm working on something new. I've also been working on geolocating my results. Currently they're just based on distance of the AUV track. Now I need to move them to Lat/Lon and come up with a way of spatially matching different fronts.

Posted by [jgottlieb](#) at Jul 14, 2011.

This week has been a spotty one, because I was out sick, but an exciting one nonetheless. I have managed to isolate several, possibly fertilized, *Atolla* eggs from the kreisel in which I had both male and female specimens. I put a few eggs in multiple types of media from plastic to glass with multiple substrates and filtered seawater. So with fingers-crossed I am anxiously awaiting any development of the eggs. As far as the adult *Atolla*, there are only two specimens still alive and they are looking a bit decrepit. Due to their current state there is not much else on the experimental front that I can do except try to keep them alive for as long as possible, however I have made some interesting observations that will be discussed in my paper and presentation. I am still waiting for my slides to return from the histology lab at CHOMP so that I can get a closer look at the trailing and marginal tentacles. It looks like I will also be running some extractions on some frozen *Atolla* samples in the near future and looking further into the genetics of these jellies.

Have a lovely weekend and enjoy the final installment of Harry Potter!!

Posted by [awalker](#) at Jul 14, 2011.

This week has been great! I managed to get the batch classifier up and running and finally get to test how the "man vs machine" contest would pan out. Nothing is conclusive yet, as (like always with science) I had a couple of issues with some of the batch processed data. It turns out there were a few bugs with voting method (the way in which the classifier finally decides on what it classifies) which was causing some errors in the batch results.

Another issue is the rate at which these files are firstly being processed for analysis and secondly the time it takes for the batch classifier to get through one file. So, many hands make light work...I now have another loaner laptop which is essentially doubling the classifying speed as I can run two directories at the same time.

The problem with this is that it needs data to classify, and this is a slow process. I am waiting for enough data to be ready to use so that I can run the batch classifier and leave it to run overnight/over the weekend. My mentor is helping me by setting up more computers to process more files..but this slows down the speed it takes to process one full complete file. Still, time to start writing.

Next week I aim to start writing whilst these files are being classified, the results of which I will put into a spreadsheet and separate them by day. It sounds complex, and it is! I also plan to meet with a Stanford graduate from Hopkins Marine Station on Tuesday to talk squid which I am thoroughly looking forward to!

HP tonight (Sorry guys - forgot my cape) and camping in Big Sur. Recipe for a great weekend. Hope you guys have a good one!

Posted by [gbwye](#) at Jul 14, 2011.

Dissection, Purple hair, and Harry Potter... oh and lots of staring at a computer screen click clicking at the key board- that pretty much sums up my week right there.

This week I have continued measuring the sea cucumbers from dive 232. By the time I am done I will have over two thousand of them. Today I dissected the sampled cucumbers from the last cruise that Ken went on. I discovered mostly females with full gonads which is a good sign of maybe getting results one day, but I won't assume anything now. Next week I will begin some work with the data and statistics. Since most of my mentor team is leaving next week, I pray pray pray, that I understand what I need to do and where to go from there.

Posted by [ethompson](#) at Jul 14, 2011.

The last week has flown by, and I'm not sure where it went!

I wrote up my notes from the workshop, and pulled together some of my research on Ocean Acidification for Heather's talk next week at the Coastal Zone conference. Simply reviewing the workshop notes gave me plenty of food for thought. Monday afternoon Francisco and I met to talk about pH, global circulation, spatial variability, biology, and many more interesting topics. Since then I have been working on comparing temperature versus pH along the west coast, from Canada to Mexico, and trying to define the relationship between the two and how it varies spatially.

I've also sent out a survey to the shellfish growers on the West coast to see how pH is affecting the,

Next week I expect to fly past as well, with more work on my spatial variability project, and hopefully more surveys to compile, and exciting things to learn.

For anyone interested next Friday my MLML lab mate is defending her masters thesis on O₂, pH and temporal variability in Monterey Bay at 4pm. I will send a follow up email next week.

Posted by [sbuckley](#) at Jul 14, 2011.

This week, not too much has been done, because the programming is still sucked. On Monday, work a little bit on the hardware wiring and test the Bluetooth, battery, and beagleboard. We find the beagleboard which is used is broken for some reasons, we are not sure. So we started to build another board but cost some time. So that makes the field test delayed.

Next week, I turn to my mentor and give a hand to build this new beagleboard, and install in the McStar system, and try to run this system directly, try to fix some bugs. After completed all the stuff, we will plan to do the field test and get some acoustic data for analysis. Plan on Wednesday depends on the software process.

Also, Monday intern meeting, Wednesday intern BBQ, Thursday intern tour to aquarium and maybe Kayaki one day. Look forward to that.

Posted by [mcai](#) at Jul 18, 2011.

This week has just been more coding, some of it successful and some not so much...Brian has been in meetings a lot this week, so he hasn't been around to help me fix certain things (especially the Browse Tree page, which is no longer working on my computer). I had a very long meeting with the Video Lab group on Tuesday in which they detailed exactly what they want the DSG to be like - "the functionality of google with the layout of the mbari home page." So that is what I'm shooting for. They also found a lot of little bugs and some layout inconsistencies that I have started fixing. I also finished the first draft of the comparison table page and have made it so every search bar in the upper right corner does the same kind of search as the page it's on. Also, if you enter something in the main search page and click one of the top links, it does that action with the keyword (think google - if you enter something and hit "Images," it does an image search).

This week I will be making the comparison tables update-able (so you can select exactly which groups to compare), working on making all search boxes autocomplete, and working on making the browseable tree collapsible, once I get it loading again. I'll also be polishing the layout on several pages.

Posted by [ecurles](#) at Jul 18, 2011.

15-July-2010

This page last changed on May 27, 2010 by [linda](#).

16-June-2011

This page last changed on Jun 15, 2011 by [linda](#).

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

Comments

Well this week I have been doing plenty of reading and catching up on the things I didn't know about sea cucumbers. I also learned the basics of the VARS program and started some work with annotations. Next week I believe I will be doing more reading and more annotation work.

Posted by [ethompson](#) at Jun 16, 2011.

Well, fast and busy week. Kind of feeling time is flying. Great pleasure to work with everybody.

First week (June 13 to June 16)___Work done:

1. Set up the private account in MBARI, find the work space, install the computer and build the personal homepage.
2. Hold meeting with mentors and talk about the schedule & plan for summer intern period.
3. Meeting with Mentor Wayne, got the hardware Beagleboard C4 and all related cables, start to setup them. Install linux system and eclipse software, got C++ codes.
4. Meeting with Mentor Gene, got the proposal for my work project, got database in MBARI data drive. Install Matlab 2011a. Start to download the data and read MATLAB codes.
5. Study the first seminar on June 15th.

Second week(June 20 to June 24___Work to do:

1. Monday meeting on June 20
2. Meeting with Mentor Wayne, talk about the Beagleboard C4 and make it work. Try to run C++ codes based on eclipse and figure out the errors if it has. Start to order some instruments for the project.
3. Meeting with Mentor Gene, talk about the MATLAB code and the huge database, and figure out how to start working on the analysis for acoustic data.
4. Meeting with Mentor Charles, understand the big direction for this project. Work as a team.
5. Meeting with Linda, schedule the plan for Open house on June 25.

REFERENCES AVAILABLE UPON REQUEST

Posted by [mcai](#) at Jun 16, 2011.

I went to sea this week to collect sea urchins for my work. it was fantastic. really interesting to learn how they collect urchins. we managed to collect sea urchins from three depths. now we are in the process of analysing them. also we are analysing water samples too. so i got a chance to famillier with analysis of certain water quality parameters. Next week seems to be more interesting. I 'm planning work with some live sea urchins. trying to figure out a method for inducing their spawning. also I 'll be going out sea to collect some more urchin samples.

Posted by [gayani](#) at Jun 16, 2011.

Well its been an exciting first week and I am slowly becoming assimilated to my surroundings at MBARI. Today was the first day that my key card actually let me in the doors of MBARI, so I feel as if I officially belong here! I feel extremely lucky to be here surrounded by brilliant minds, plus the view isn't that bad either.

Currently my mentor (Francisco, who heads the Biological Ocean Group) myself and our group are waiting to receive an integration kit from the company Liquid Robotics, which designs the Wave Glider ASV. The funds for the grant have been bouncing around but it appears that a PO has finally been sent from MBARI, so we should be receiving the kit in a few days!

Wave Glider is sending us a hollow shell that I will fill with a variety of Ocean Acidification sensors, specifically a pCO₂ sensor that was designed in house. My job is essentially a big electronic and plumbing puzzle. This week I have studied up on how the different OA sensors work and have discussed some possible integration solutions with Gernot Friederich and Chris Wahl who are both part of the Biological Ocean Group. Many trials will need to be run in our test tank before the integration can be complete, so the sooner I can get to putting the parts together the better our result will be.

Next week we should have the integration kit so I will be busy putting the pieces together so that test runs can begin as soon as possible. I also may have some sea time with the JOHN MARTIN which is deploying sensors in Monterey Bay for the next week.

Posted by [btougher](#) at Jun 16, 2011.

This week I have been going over a few things with regards to a project plan with my mentor Danelle and Erika Montague which will be suitable for the 10-week time frame. As the EITS data set is large, we had to critically evaluate an appropriate sub-set chunk of video-data to work on which will both help develop the AVEDac program and hopefully turn out some interesting results in terms of faunal behaviour!

Next week I plan to start pulling the data and process it through AVEDac and then begin on annotating some video-data.

Can't believe it's been almost 4 days already!

Posted by [gbwye](#) at Jun 16, 2011.

This week was spent primarily working with Thom Maughan (my official mentor) and the rest of his group (Kanna Rajan, Rishi Graham, and Frederick Py) establishing what I hope to accomplish this summer. My project is going to be finding ways to utilize control theory and AI techniques (e.g., Kalman filters, machine learning) to troll the data coming in through CANON to do automated detection of interesting "events" in the bay, such as upwelling fronts or chlorophyll blooms. Initially I will be tackling the relatively simple problem of just detecting upwelling fronts utilizing past water temperature data from Dorado and Tethys. This will then be built upon to include data from other sources, such as surface vessels, moorings, drifters, and satellites, as well as other types of data (salinity, chlorophyll, nitrogen) being received by CANON to do realtime detection of these upwelling fronts. The final step is to provide a means to generalize it so that the scientists can determine the parameters of interest (so that it can find more than just upwelling fronts).

As a side project, if there is time, I will be developing a stripped down version of this system that can run in situ onboard the AUVs so that they can have the autonomy to decide to track interesting events as they detect them at, say, 3am.

This week was spent establishing the parameters of the project, gathering the first data sets that will be used, and exploring some possible approaches.

The next week will be spent constructing a couple of simple Kalman filters and applying them to a single Dorado data set with a very clear upwelling front to see how they perform and evaluating how to proceed based on success or failure. I am also currently scheduled to go to sea on Tuesday with the Zephyr to actually do a Dorado deployment.

Posted by [jgottlieb](#) at Jun 16, 2011.

It has been a fantastic and fast few days so far. Tuesday I literally jumped ship to the R.V Point Sur and helped a Moss Landing Marine Labs researcher pull a mooring and deploy the CTD. Yesterday I was lucky enough to sit in on the practice DOEST talks, and I spent a lot of time thinking about who will use scientific data. I have also been working on accessing and plotting ocean acidification data from two moorings in the Northern Monterey Bay.

Next week I will help Heather with the CeNCOOS presentation to the DOEST on Tuesday, then head out on the Point Lobos on Wednesday. I am looking at relationships between physical and chemical variables in the surface ocean, and will begin defining ocean acidification indicators.

Posted by [sbuckley](#) at Jun 16, 2011.

This week has flown by - having Friday off helps a bit - and has been a crash course in engineering chemistry. I'm feeling incredibly lucky to be at MBARI and working in the Brewer lab, both Ed and Peter are incredibly brilliant and excellent mentors. I've learned so much already, and I've only just begun actually analyzing samples.

So far, the bulk of my week has been spent familiarizing myself with the lab setup, the machine shop and the Raman laser spectrometer. The latter is an ingenious laser system that detects the vibrational signatures of compounds in any phase. We use it principally to study gaseous and solid hydrates, which

are entrapped within layers of sediment on the seafloor. Methane hydrates serve as a source of both potential energy and emitted greenhouse gas that can escape the ocean and enter the atmosphere, so they are of great interest to any scientist concerned with climate change.

I've not spent any significant time working with lasers or their mechanics prior to coming to MBARI, so all of this is new to me. It's been refreshing to spend time on chemical analysis outside of wet chem/hood work. Peter Walz and I have fully set up and calibrated the in-lab spectrometer (we have a deep ocean in-situ laser system as well, which we will be using extensively off the Northwest coast in August) and run a few test samples of gas mixtures. Today I hope to get through a lengthy list of samples obtained earlier this year and identify their composition. Next week, I will be out to sea both Monday and Tuesday on the Lobos repairing another facet of our project, FOCE (Free-Ocean Carbon dioxide Enrichment), which is essentially a large scale, in-situ ocean acidification incubation off the coast of Monterey. We have been having some mechanical difficulty with the various gears and chains required to maintain a more acidic environment in this area, and that expedition on the Lobos will be dedicated to repairing this system. Later in the week, Dr. Brewer will have returned from Hong Kong and I look forward to meeting him and learning more about this summer's work in the lab.

Congratulations to everyone for making it through their first week!

Posted by [ecoward](#) at Jun 16, 2011.

This week has been spent mostly settling in and working out the basics of my project. Unfortunately it is looking like the AUV deployment intended to collect images that I was going to use to examine cold-seep habitats is no longer going ahead. Thankfully my mentors Charlie Paull and Lonny Lundsten quickly came up with another plan.

So my new project involves looking at ROV data from the SoCal submarine canyons to determine if the faunal composition varies between active and inactive canyons. To accomplish this I have been taught how to use VARS (Amazing!) and have had to quickly reteach myself basic ArcGIS (Urgh!).

So far I've put together a basic map of the ROV tracks for each canyon combined with the available multibeam data so I can see where each 'transect' was taken and get a general feel for each canyon environment. I've then mapped the available Concept Name data from the outline VARS runs already performed on the videos by Lonny to get a general feel of what's out there. At the moment I am also putting together a species list to help with my identification while I go through the first tape of ROV video data. I am also in the process of annotating outputs from VARS with higher taxonomic grouping data to ease comparison of the mapped points.

Next week: Pt Lobos on Monday, video analysis all other days, finalise project.

Posted by [gduffy](#) at Jun 16, 2011.

This week has been a really wonderful experience for me. After the induction I spent a lot of time talking to the guys who I will be working alongside in the Haddock lab, and they have really done everything they can to make starting here as easy as possible.

My main accomplishments this week were tied to previous engagements, but I did get a chance to discuss with Steve Haddock about possible project directions. The project I am most likely to work on involves use of the VARS database to investigate the ecological interactions between gelatinous zooplankton groups. In order to accomplish this I was trained in the use of VARS, and I look forward to beginning forming queries for it.

The other possible projects are;

- Investigating the chemical basis of bioluminescence in the planktonic nudibranch, *Phylliroe bucephalum*
- Investigating the composition and features of the pneumatophore gas found in benthic siphonophores

I have successfully traversed the terrifying Lobos without feeling too bad, and I got to see my first gymnosome mollusc, physonect siphonophore and lobate ctenophore. All are truly wonderful.

Next week I will begin to run some preliminary tests for my project to decide which group would be best.

Posted by [kmconville](#) at Jun 16, 2011.

This first week has been very fun and exciting. I had the opportunity to go out on the Point Lobos twice. Tuesday I joined Gayani in helping to collect sea urchins with a fascinating suction device, and learned a tiny bit about controlling the main camera on the ROV. We also saw whales and dolphins!! Today Kristian and I got the opportunity to learn a tiny bit about how to control the ROV itself, or how to "fly" - it felt like I was flying through space. And we saw jellies!

Also this week I have been reading articles and learning about hydrothermal vents and tubeworms that live there, to get project ideas for when I meet with my mentor next week. I will likely do a project on the population genetics of a tubeworm from the genus *Tevnia*. This is what I will be figuring out next week with my mentor, and then hopefully I will be able to get started in the lab.

Posted by [vflores](#) at Jun 16, 2011.

Sorry about being a little late on this - I didn't remember to do it on Wednesday and was gone Thursday.

Last week I started learning about the tools I will need to complete my project including: basics on how to use the Terminal, the Scala programming language, and CSS and Mustache (both web editing tools). After Brian taught me the basics of some of the code comprising the Deep Sea Guide website, I got to jump right into editing. I have completed some small (mostly layout) changes to the Deep Sea Guide and I am continuing to work on layout until my mentor gets back on Thursday. I also had a few meetings with staff from the video lab to learn how to use VARS and to discuss what they need done to the Deep Sea Guide that I can take on.

This week, Nancy and the rest of the video lab staff are finishing the details of what they want added to the Deep Sea Guide and presenting it to me so I can get started on my project. Last week, Brian and Nancy concluded that it will probably be a page that shows quality control data for each of the dives in the VARS database. I will know the specifics on Thursday.

I am also going out on the Point Lobos tomorrow and I am hoping I will be like Vanessa and not have a problem. I have never gotten sea sick in my life so we'll see...

Posted by [ecurles](#) at Jun 20, 2011.

I began my week by meeting my mentor in person for the first time, and discussing potential ways to proceed. After this meeting I was introduced to matlab, which was not a pleasant experience. I have no experience with programming, and I know nothing about matrices making the use of matlab, as best, difficult. After struggling for some time, it seemed better to take a project in a different direction, and the change was relatively drastic. Instead of comparing the ecological interactions between different gelatinous groups, my new primary focus is to understand the chemical basis of bioluminescence in the planktonic nudibranch, *Phylliroe bucephalum*.

So far this week, I have determined that *Phylliroe*, like many other organisms uses coelentraxine as the substrate for its luminescence. To get more familiar with these techniques I am going to perform similar analyses for *Vampyroteuthis*, *Chiroteuthis* and *Octopoteuthis*. Next week I will run these samples on a native gel so I can physically observe the luminescence, which should be good.

Also, a blue water diving trip is to be organised so I can encounter a number of the more common shallow gelatinous species in this area, which I greatly appreciate.

Posted by [kmcconville](#) at Jun 23, 2011.

My first week with MBARI was nothing short of amazing! I was extremely lucky in that I was able to join the Midwater Lab on their 2011 Research Expedition aboard the Western Flyer. We had a fantastic voyage and observed and collected an array of organisms and behaviors. One animal in particular, the deep-sea jelly of the genus *Atolla*, was my primary focus as it will be the center of my study while I am here at MBARI as an intern under Bruce Robison. I will be studying the structure and possible function of *Atolla*'s curious trailing or hypertrophied tentacle. Luckily I was able to bring back some specimens to observe and experiment with in the lab.

It will be quite an adjustment being back on land and not seeing *Vampyroteuthis*, *Histioteuthis*, *Munropsids*, *Tomopteris*, and all the wonderful creatures as I have gotten to see on the Flyer, but I am nonetheless excited to get started on my project.

Posted by [awalker](#) at Jun 27, 2011.

17-June-2010

This page last changed on May 27, 2010 by [linda](#).

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 27, 2010 by [linda](#).

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01-July-2010

This page last changed on May 27, 2010 by [linda](#).

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21-July-2011

This page last changed on Jul 14, 2011 by [ethompson](#).

Comments

Over the course of this week I have used other taxonomic materials and more lab photos to add the described cydippids into my key. In it's current state it is capable of resolving pretty much all described and undescribed genera of cydippids. As the cydippids form a major component of the diversity of the phylum ctenophora, I have made good progress toward a key for the whole phylum. My remaining task is to incorporate the other major group (the lobates) as well as a few oddballs. This second stage is likely to be slower due to the high number of species already within the key, and fitting the more derived species into the framework built for cydippids.

The result would be a complete key for all ctenophores we currently are aware of and would be available in two versions. The first version would be a full version with all described and undescribed species (that we have reasonable detail about) and would only be available to MBARI. The second version would include only described species (to not steal our thunder so to speak) and would be freely available on the web.

So my main task over the coming week is finding ways to integrate these derived species (like cestids and benthic ctenophores) into the framework, and scoring them.

For the record today's kayaking was amazing. Firstly we saw a relatively long (8cm or so) chain of *Thalia democratica* (a pelagic tunicate), which is the first time I've ever seen a salp (particularly cool as they are the fastest growing animals, increasing up to 20% in length per hour!). Also being surrounded by sea nettles like that, and getting to see them in the wild for the first time really is a high point of the internship so far for me.

Posted by [kmconville](#) at Jul 21, 2011.

I worked on the rest of the urchin specimens through out the week. cleaning, dissecting, bleaching, drying, mounting on epoxy and finally grinding took lot of time. but final results were amazing. I have already finished the specimens from last cruise. but I have some extra urchins from previous experiments. so, I'll continue the same procedure over the next week too. hope to finish all the specimens by the end of next week.

kayaking was really great. it's my first time, I enjoyed a lot. wow, Otters, I like them lot.

Posted by [gayani](#) at Jul 22, 2011.

This week saw some steps forward as well as a few steps backwards. On Monday I designed a new valve block for our sensor integration in order to include a standard sample of CO₂ to be run through our system while it is deployed. Our original valve block has only four valves, so I designed a new block that had five. On Tuesday morning, after finishing the new design, we realized that the new valves would not work with our controls, therefore we had to resort to our older valve system that is used for our moorings. This block is very large, however by taking a little off from all sides of the block, I am confident the older valve system will work. Because this valve block is designed with only four valves, we have decided the fifth valve will be separate and will come directly off of the standard. In addition to designing this new layout, we will need an additional Chamber Controller board because we have run out of I/O bits. Also on Tuesday Gernot Freiderich returned to our lab, so he has provided us with insight into what needs to be done to incorporate the equilibrator as well as the CO₂ standard, which is much larger than the one that we had originally thought we would be using. On Wednesday I designed a new mounting board for the dual Chamber Controller, and adjusted the entire layout of the dry box to incorporate the larger CO₂ standard. Today I will be working on attaching the plumbing from the valve block to the internal instruments. This should take me at least a day.

Next week: Will hopefully begin wiring all of the components together, that is if our design doesn't change once again. Once this has been completed, or better yet, while this is being completed our communications with the Wave Glider Comms. and Controls will hopefully be established. If all of this is done within the next two weeks, then I will have the final week to make sure the system runs properly before our presentations on the 17th. My fingers are crossed....which makes it hard to type.

Posted by [btougher](#) at Jul 22, 2011.

This week I finished the lab work and most of the sequence editing for the two mitochondrial genes I am looking at. Today and next week I will be learning some computer programs to analyze the sequences and build haplotype networks. This week I also got some preliminary results for two nuclear genes that look promising. Next week I will look at those sequences to see if there are any polymorphic loci (because we need some variation to compare sequences) and re-design primers if necessary. If that all works out I will run the PCRs and sequencing reactions for those genes on the remaining samples.

Posted by [vflores](#) at Jul 22, 2011.

By the end of the day I'll have hopefully finished off the videos from La Jolla, the most complex and most stunning of the SoCal canyons, the topography is amazing! This afternoon Lonny is also going to show me VARS for images and some of the mosaicing tools that he uses, this was initially what my project was going to consist of so it will be interesting to see how all of this works. When Charlie gets back from Scotland we're going to discuss the way forward with all my data and whether or not looking at the PV slope dives would be useful for comparisons.

Next week will be mostly data manipulation and habitat classification based upon video observations and bathymetry data, that's assuming I can get benthic terrain modeler installed on my computer.

Posted by [gduffy](#) at Jul 22, 2011.

So I do believe I have been productive this week- although it is hard to remember the week sometimes. I have finished all of the measuring and am working with Linda on the stats and number crunching. By the end of today I will be set up to just finish a few things and then start on the graph making next week, which Paul will be helping me with since excel has been thumbing its nose at me lately. As soon as the graphs are made and interpreted, I will be starting on the paper..... which will be interesting.

Posted by [ethompson](#) at Jul 22, 2011.

Yesterdays kayaking and aquarium adventure was the high point of the week; sea otters, Jelly fishes, seahorses, sunshine and fog, all in one day! The BBQ on Wednesday went off well, with lots of work from everyone. We had so much fun we've decided to have a Cookie break on Monday.

My projects have been going really well, and are very interesting. I've plotted temperature vs. pH data from 13 transects stations along the West coast from Canada to Mexico. I then compared that relationship (equation) to the daily averaged relationship between temperature and pH at a mooring in Northern Monterey Bay over a 2 month period. Surprisingly the relationship between Temperature and pH didn't vary as much over distance as it does over time.

Next week I will spend some time with those equations, and trying to apply one equation to satellite temperature to predict pH. I'll also start applying this technology to CeNCOOS and helping shellfish farmers.

Posted by [sbuckley](#) at Jul 22, 2011.

This week I have been importing a whole heap of results which have been spat out from the batch classifier. There are still lots of misclassifications but there have been a lot of bugs both within the files which were processed and the classifier itself.

A lot of these problems are being exposed by the amount of visual noise the EITS dataset contains which can not really be altered as they are THE results. It is a very interesting learning curve however to observe what the classifier categorizes as noise. The results from each day show varying levels of noise which is ultimately dependent on the size of file (clip duration).

Unfortunately, there hasn't been a sniff of any squid interactions but it is also interesting to ask why there haven't been any. At the same time, it is also important to ask whether this is viable..how accurate is the machine?

On a light note, there have been some very cool things in the data set which aren't directly relevant to my current project but are interesting nevertheless! Hope to may be share some of the cool clips from the data set with everyone during the seminar!

Posted by [gbwye](#) at Jul 22, 2011.

This busy week, so many stuff went through

Monday: we have to do some shopping for Wednesday BBQ in Costco and Safeway, and design the intern T-shirt for sale on Wednesday, too. After that, I have been at work for the rest of day.

Tuesday: I was at work for the whole day, talked with mentor Gene for around 2 hours and planning the installation of all hardware for McStar

Wednesday: I was at work for the whole day. At Noon time, we serve BBQ for MBARI employees and show our design of T-shirt. Have a meeting with Gene and Wayne, work on the McStar together. Work on Mechanical Engineering design and electrical engineering stuff, that is cool.

Thursday: George took us to MBA before noon and kayaking in the afternoon, be back to MBARI after 3:30pm. Exciting adventure

Next week:

Update all the documents

Have meetings with Mentors and plan the final experiment preparation on Wednesday.

Start to work on the final report

Posted by [mcai](#) at Jul 25, 2011.

Apologies for the delay.

This week was frustratingly unproductive. I spent most of it working on a journal submission about the algorithms I've been working on. Discovered a couple of problems with it that I need to try to fix. I've also been working with Sergey to try and integrate my gradient-detection results with his LCS analysis of surface currents to see if we find good correlations between the fronts detected by his method and the ones detected by mine.

The coming week will primarily involve more of this.

Posted by [jgottlieb](#) at Jul 25, 2011.

Last week I wrapped up the bulk of my project concerning CO2 replacement in CH4 hydrates and am now trying to get as much out of the data as possible, which is always a tricky game but I'm feeling good about what I've produced so far. The results I've gathered disprove a recently published paper, so it's been fun working on a complete and effective counterargument. I've also spent a lot of time with Peter Walz designing and building various instruments in shop for our cruise in two weeks, which is still my favorite part of this job. Everyone has been incredibly patient and supportive of my fumbling around with tools and machines I've never used before, and I am so grateful for that. It's been a steep learning curve but a fun ride. This week I plan to start my last project, looking at sulfide hydrates, which will serve as a foundation for the work I will be doing on the Flyer in two weeks. In addition, I have to prepare my talk for next week and begin my final report! Looking forward to a busy week ahead.

Posted by [ecoward](#) at Jul 25, 2011.

I know I'm really late on this one, sorry everyone! Last week I wrote my first ever Javascript and this week I finally got it working! It allows the user to automatically enlarge a table row to read the full description for a concept in the comparison table (this will all make sense in my presentation - that's the thing with explaining web development and programming, it's much easier with visuals!). I still had an unknown problem with the page that allows the user to browse the VARS tree, which I worked on this week as well (and apparently fixed...I don't quite know how). I fixed a couple of bugs in the searching and made some layout changes that the video lab suggested. I really enjoyed kayaking, and didn't fall out of the boat, which was a first for me! This week I am working on having the DSG generate sets of "representative" images for higher order concepts (such as kingdoms and phyla) so that there are fewer pages with "no image available." These sets are randomized, so for high order concepts with lots of options (such as Eukaryota), the generated slideshow will be very different every time you refresh the page. I've also been taking lots of screenshots for my presentation for pages that take too long to load so I won't have to wait on them while presenting. Brian's been doing a lot of cleaning up and condensing the code and working on the data artifacts (graphs, etc.) which I hope to be able to integrate into my comparison table before I leave.

Posted by [ecurles](#) at Jul 27, 2011.

This week was a whirlwind! With the BBQ and the MBA/kayak tour it was a bit difficult to focus, but I managed to get a decent amount of work done nonetheless. I got some slides back from the histology

lab at CHOMP, only certain sections of the trailing tentacle of Atolla, and began trying to identify the cell types and annotate the internal anatomy. I also took some photographs of the Atolla eggs collected a few weeks earlier. There are a few eggs showing potential for development so stay tuned. Hopefully I will get more slides back next week, as I am incredibly anxious to compare the internal structure of the trailing tentacle with a marginal tentacle. Hope you had a good weekend!

Posted by [awalker](#) at Jul 31, 2011.

22-July-2010

This page last changed on May 27, 2010 by [linda](#).

23-June-2011

This page last changed on Jun 23, 2011 by [btougher](#).

Comments

This past week I implemented a system that can go through Dorado data and find rising and falling temperature fronts. The next step is to apply it to salinity, density, nitrogen, and chlorophyll data to see if it works equally well. Once that is accomplished I will be integrating the results from all of these different types of data to generate a (lat, lon) range for where the upwelling front most likely is, as well as a confidence score to reflect the system's belief in its results.

I also went out on the Zephyr on Tuesday for a Dorado drop-off. I did not get sick, but felt a little queasy at times. Given that I felt queasy the rest of the night, I suspect it may have been more related to the orange chicken I had the night before than to the boat ride itself. Sadly, the Steve Rock cruise on the Lobos was canceled. Hopefully it will get rescheduled.

Posted by [jgottlieb](#) at Jun 23, 2011.

Another good week here at MBARI. I really feel as if I am falling into a stride and becoming more comfortable in my new surroundings. The weeks are flying by already, so there is already lots to accomplish in the next 8 weeks!

This week involved a variety of things, including:

Monday- the Wave Glider ASV parts came in, most importantly the payload (the controls drybox which holds our instruments). Myself and Chris Wahl (an Engineer part of the BOG) discussed the best ways of moving forward. I met with Heather Kerkerling (Shandy's mentor) and Shandy for a presentation about CeNCOOS and the different initiatives that program is involved in. I also began to look over the 1,000 pages of documentation that came with the Wave Glider. Just some light reading!

Tuesday- I resumed reading Wave Glider documentation. I went to Francisco Chavez's talk about CANON as part of DOEST day and I also caught the tail end of Heather Kerkerling's talk about CeNCOOS. During the afternoon after reading most of the documentation, I realized it would be effective to learn SolidWorks to accomplish my project goal of integrating MBARI's OA sensors into the Wave Glider. I started the SolidWorks 2008 tutorials.

Wednesday- Went on the John Martin during the morning. Was somewhat of an uneventful cruise, however some water samples were taken for testing levels of Cadmium at different temperatures, salinity and chlorophyll levels. Was back on shore by noon. I resumed learning the SolidWorks program and measured the dimensions of the payload so that I can eventually design the payload box in SolidWorks.

Thursday- Installed SolidWorks 2011 and began new tutorials. Scanned our database for SolidWorks drawings that are applicable for my project and consolidated into one folder. Reviewed notes on Wave Glider documentation and discussed next weeks goals with Chris. Leave for Mississippi for a wedding tonight and return on Sunday night.

Next week- We are still waiting on some answers from Liquid Robotics about the Wave Glider, so once we have reply we will be able to take some big steps forward. For next week I hope to start putting instruments into the Wave Glider payload via SolidWorks in order to make sure all of the instrumentation will work. Also on Wednesday I will be one of the intern's giving a brief talk to the visiting high school students.

Posted by [btougher](#) at Jun 23, 2011.

This past week I met my mentor Shannon, who is really great, and got started in the lab. I extracted DNA on several samples of Tevnia tubeworms that were collected from various latitudes along the East Pacific Rise (EPR), and ran PCR for those as well as several other samples that had previously been extracted. I got good results for the mitochondrial genes COI and cytB, so I purified the PCR products and they are currently in the beautiful sequencing machine Lola.

I also attempted PCR for a few samples with several nuclear gene primers, but got no results, so I am repeating those reactions today with a different program on the thermal cycler. For these genes, we

are starting by looking at the two populations that are furthest apart, because those are theoretically supposed to be the most different, and so that would give us some idea of the variation throughout all the populations along the EPR.

Next week I will hopefully be analyzing sequences if the results are clean enough. I also hope to get the PCR for the nuclear genes working, so I can get those sequenced and analyzed as well. If not I will likely extract DNA from more individuals and repeat this process for the mitochondrial genes while we troubleshoot the reactions for the nuclear genes.

Posted by [vflores](#) at Jun 23, 2011.

This week I worked on more aspects of the Deep Sea Guide layout, mostly formatting it to make it look better (IMO and Brian agrees). I also went through a lot of different pages to try and catch any bugs in the programming and found a couple.

On Tuesday I went out on the Lobos with Liz; I felt sick a couple of times but managed not to *get* sick. Sleeping helped a lot, as did eating even though it felt like the last thing I wanted to do! It was a very long trip out to the FOCE dive site. We saw a few small schools of dolphins and a couple of humpbacks in the distance. They were going out to fix two of the chains that had come off the gears on the fans, and it ended up being very difficult. If I remember correctly, there were problems with the cameras and it was very difficult to keep the tool steady when the boat rolled, so many times the tool would miss the chain. They did end up fixing both of them. Then, just as we were about to start home, we got the news - one of our engines had broken, so we had to limp home very slowly. While we were out, we also saw a humpback that had gotten tangled in a crabpot and couldn't get the pot and the attached floaters off of it! It was really sad and we wanted to dive in and help it, but no one had a wetsuit. So we got home very late and missed the DOEST reception, which was a shame.

Today I am starting to write real code, instead of just changing the layout, in order to re-enable the Image Search page on the DSG (the group originally decided to delete it, then changed their mind when they realized it could be useful). So for the next couple days, I will be working on the code to get the Image Search working better than it did before. Next week I will finish the Image Search code and hopefully start working on a page of my own, once we figure out exactly what that is going to be...

Posted by [ecurles](#) at Jun 23, 2011.

On Monday I was out on the Lobos with Liz to charge up FOCE with some CO2 for future enrichment experiments. I spent the first 2 hours pretty much unconscious (totally missed the whales!) but was feeling okay once we made it on station. I spent most of the day sat in the ROV control room asking inane questions ("what does that button do?") and generally finding out how FOCE works and what it is intended to do. After filling up the CO2 tank we swung by the main MARS observatory, the central hub idea for adding experimental modules (like FOCE) is really cool.

Back on dry land I have been analysing the outline data from the SoCal canyon dives. The canyon data clusters really nicely and separately from the dives in the basin and on the slope. One hurdle I have come across however is that there is a very significant difference between the 2005 dives and the 2010 dives. I am currently trying to determine why exactly this is but is most probably tied to observer variation, water clarity, and differences between HD and SD footage rather than due to inter-annual variability. I'll be going through all of the videos for a more detailed run through with VARS and am also currently cleaning up the data to account for any variation caused by differing levels of taxonomic classification.

While going through the videos I will also be classifying sections into macro-scale habitat groupings as thus far I have only been comparing at the mega-scale (between canyons) and would like to further examine the effects of substrate and depth.

My life achievements this week include opening a US bank account (thanks to a super-efficient bank-lady) and getting my jacket shipped from Phoenix, AZ after a nice person handed it in to lost and found.

Next week I will hopefully be in the digital lab for the majority of the time to get a handle on what could be causing the discrepancies between years and then come up with a way to address this in future analysis.

Posted by [gduffy](#) at Jun 23, 2011.

Over the last week I have been to several meetings, done some data analysis, read about ocean acidification, and worked on defining my project plan. Monday, Tuesday and Wednesday were spent

learning about CeNCOOS, about MBARI, and about the role I will play between the two. This morning has been entirely taken up with plotting data from two Ocean acidification moorings deployed in Northern Monterey Bay. The moorings are measuring pCO₂ in the water and the air, and salinity and temperature. I'm looking to see if I could use that data to predict oceanic CO₂ from a physical variable. So far so good; pCO₂ in the ocean seems to be somewhat correlated with temperature and salinity. The next step will be to research other peoples science and see if my correlations match theirs. All of this is heading towards being able to predict ocean pH from something like wind strength (wind = upwelling = salty cold water = acidic water).

On the CeNCOOS side of my project I am asking questions about who needs to use this data, how they want it communicated to them, and if there are any products CeNCOOS could provide to the public. I'm concentrating on aquaculture and shellfish fisheries, and the ramifications of current and future ocean acidification. In the next week I will ask lots of people lots of questions about shellfish, aquaculture, and acidification. Lucky me, the week after I will go to a workshop with my mentor in Orange County, to learn about how all of things work together.

I'm loving my project, really enjoying MBARI, and learning a lot from my mentors. I have trouble not thinking about work when I go home!

Posted by [sbuckley](#) at Jun 23, 2011.

Well it is the second week. I feel the environment here and getting more comfortable with it. Think now I'm more comfortable with the climate. But I miss sun light a lot.

On Monday, I went to moss landing marine laboratory with Josi and observed EM pictures of some of sampled sea urchin test plates. I'm learning lot from Josi.

Unfortunately my second cruise on lobos was cancelled. Hope they will reschedule it. Rest of this week I spend for reading and literature survey. Also I tried to induce spawning of few urchins but ended with no luck. Finally dissected some of them and it seems this is not the best time period for their spawning.

Also I met my mentor Jim Barry on wednesday, I'm looking forward to work with him on the project.

Open house on this Saturday, I'm so excited.

Posted by [gayani](#) at Jun 23, 2011.

I can't believe our second week is almost over! I'm feeling increasingly confident with the Raman system and the hydraulics, optics and software required to operate such a complex laser system. I've developed a few protocols for its use, standardized them and begun producing some data sets. I'm traversing relatively uncharted territory, and it's been really exciting to explore the broad potential of the Raman system.

Monday and Tuesday I went out on the Lobos to refuel and repair the FOCE system. Monday, with 10 foot swells and high winds (that Grant somehow managed to sleep through, impressive) was incredibly rough, and I was down for the count for the majority of our trip. I was really disappointed in myself and was determined to try again, despite the warnings of the Lobos crew. It turns out that Tuesday was much calmer, and I had a wonderful time running around the boat, observing in the control room and eating a lot in the galley - all activities I missed out on the day before. After a very stressful day for the pilots (see Erica's update), FOCE was fixed in time for the port side engine to blow. We limped back into the docks 3.5 hours later. It was a long trip, but absolutely worth it for the restoration of the FOCE system and my pride.

The rest of the week has been spent in various meetings concerning our leg of the Northern Expedition. Dr. Brewer has returned from Hong Kong for a few short days, and as such planning efforts have been kicked into high gear. Several new instruments need to be designed and constructed before our departure in August, so I have been running in between lab and the machine shop, checking in on the progress of a variety of contraptions needed to track and capture methane hydrates in all their phases.

In addition, I have been continuing my identification of unknown gas mixtures collected by the USGS and MBARI in Barkley Canyon last year and developing pressure/temperature profiles of known mixtures created in the lab. These data will be crucial to later analysis of samples collected in-situ in August. Analysis has been a combination of impure gas kinetics, a throwback my high school chem class, and the most advanced spectroscopy - needless to say, it's been fun to relearn the fundamentals of chemistry I loved in high school and apply them to situations I never dreamed possible. Looking forward, I plan to

finish constructing these profiles and then use them to calibrate the in-situ raman system, DORIS, and testing several phase-dynamic hypotheses regarding solid and gaseous hydrates. There is never a dull moment, and I'm feeling only increasingly lucky to be at MBARI.

Posted by [ecoward](#) at Jun 23, 2011.

Week I have done much more video annotation. Ken and I had a meeting with Linda and redefined what we would be calling these squishy little buggers. The large pink/purple ish ones are going to be peniagone sp. A, the medium orange/ pink ish one is going to be the amperima-peniagone complex, and the tiny little white one is the peniagone sp. B. I have also added the scotoplanes to my list of holothurians to annotate. I went back through all the previously annotated video and renamed everything, then preceded on the the new video footage with the proper names for each cucumber. I finished dive 230 and have moved onto dive 231. I would like to have dives 231 and 232 finished next week but we will see if that happens. Next week I will also be adding measuring the annotated sea cucumbers, and that is probably the bulk of what I will be doing as soon as the annotating is finished.

I certainly never thought there would be so much to learn about a sea cucumber, but they are pretty complex for being pretty much one long fat intestine. I am loving learning all I can, and I am so glad that Linda is patient with me and answers all my questions so fully.

Oh, yes- I also relearned that hot glue is very hot 😊 yay open house!

Posted by [ethompson](#) at Jun 23, 2011.

This week (June 19 to June 25).

- 1.Monday, update meeting in the morning, assign the work and report the prior job done. Have a short meeting with mentors, talking about the update. Read technical papers, find out some useful information about signal frequencies and processing method.
- 2.Tuesday, listen to the meeting in DOEST and learn some ocean engineering-related presentation. A general idea about the MBARI past work and future plans. Working on the installment of McStar, sensors, circuit diagram and wire connection.
- 3.Wednesday, continue the McStar hardware research. Look at the acoustic data, make own MATLAB codes to analyze the spectrum (DONE), research on Mentor Gene's MATLAB codes and try to make it running. Listen to the weekly seminar from Prof. Young
- 4.Thursday, work on the Ubuntu- Linux system and Beagleboard C3&C4, set up the Beagleboard hardware and try to debug based on Cutecom and Eclipse platform, but so far not done. Also, self-study C++ and read codes step by step.(Feeling not too good, cost much time-input but no results-output).
- 5.Friday, will continue working on the linux system and debug Beagleboard, hopefully... and prepare for the Open House on Saturday.

Next week (June 27 to June 30)

- 1.Monday, update meeting. 2012 Proposal process meeting at 11 am and learn about the related projects.
- 2.Continue working on the Linux system and debug Beagleboard C4, read and write the C++ codes on Eclipse platform, try to make it working by Wednesday.
- 3.Install Beagleboard into McStar instrument and wire all the sensors, batteries and machine elements.
- 4.More research on the MATLAB codes and run it with old acoustic data, make sure understanding all the acoustic spectrum.
- 5.Propose to do the tank test of McStar on July 8th (need to talk with mentors).
- 6.Try to help for June 30th UCSC interns visiting.

(THIS WEEK WILL BE A HARD-WORK PERIOD)

Posted by [mcai](#) at Jun 23, 2011.

I am shocked how quickly this internship is going, seems only yesterday since the last confluence update!

This week Danelle and I have made significant progress in calibrating AVEAc to detect squid species (mainly Humboldt). We started off by re-annotating data that I had already analyzed last summer and extracting the extremely cool interactions on the artificial bioluminescent display imposed by Humboldt squid.

The plan is to tweak the automated event detection software in a way which will only pick up fast-moving organisms (hence squid), which seems to be a simple idea but is actually quite complex. If we

get accurate and consistent detections, then we can run it through the rest of the very large EITS data set. Danelle has been extremely patient with my limited background in software programming, it is like learning a different language! Guess that comes with the collaborative package here at MBARI when working with people of varying specialist background!

As for the biology side, I met up with post-doc Henk-Jan to discuss the different behaviours displayed by squid in different conditions and has put me in contact with a couple of cephalopod specialists outside of MBARI. I had a couple of questions regarding the somewhat antagonistic behaviour I had documented which has raised several other exciting questions...to be continued.

Next week I plan to build up the image library for AVEAc to get greater variance of classes in the training libraries. Hopefully by the end of next week we can start to process a sub-set of the 'unknown data' in the EITS data. Baby steps at a time!

Posted by [gbwye](#) at Jun 24, 2011.

I began my week by meeting my mentor in person for the first time, and discussing potential ways to proceed. After this meeting I was introduced to matlab, which was not a pleasant experience. I have no experience with programming, and I know nothing about matrices making the use of matlab, as best, difficult. After struggling for some time, it seemed better to take a project in a different direction, and the change was relatively drastic. Instead of comparing the ecological interactions between different gelatinous groups, my new primary focus is to understand the chemical basis of bioluminescence in the planktonic nudibranch, *Phylliroe bucephalum*.

So far this week, I have determined that *Phylliroe*, like many other organisms uses coelentraxine as the substrate for its luminescence. To get more familiar with these techniques I am going to perform similar analyses for *Vampyroteuthis*, *Chiroteuthis* and *Octopoteuthis*. Next week I will run these samples on a native gel so I can physically observe the luminescence, which should be good.

Also, a blue water diving trip is to be organised so I can encounter a number of the more common shallow gelatinous species in this area, which I greatly appreciate.

Posted by [kmconville](#) at Jun 27, 2011.

Week 2 was a whirlwind! After my lab and I unloaded the Flyer of all our specimens and belongings, I immediately went to work on keeping the *Atolla* jellies alive. After a few days of acclimation to the seawater in the wet lab and getting the flow in the kreisels just right, I finally added a total of 11 healthy looking jellies to three tanks. I spent most of the week hatching artemia nauplii to feed the jellies, which I think is going successfully. It is hard to tell if they are eating the brine shrimp, partly because they are too small to really see, and because the *Atolla* react poorly to light exposure, even red light. This makes it difficult to observe their behavior. In order to better observe them I have procured a night vision monocular! It has been working quite well, although I do think there are a couple of kinks that need to be worked out.

I attempted an experiment toward the end of the week involving the addition of fluorescein to a concentrated amount of artemia. After some trial and error we improved our technique and, using a small plastic pipette, I pumped the mix into each kreisel to see how the jellies respond to their feeding. I saw some interesting reactions, which has prompted me to continue feeding the jellies the fluorescein/artemia mix daily to monitor their reaction, until I am able to obtain live plankton (mysid shrimp), likely to be collected next week!

Posted by [awalker](#) at Jun 27, 2011.

28-July-2011

This page last changed on Jul 24, 2011 by [mage](#).

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.

Comments

Have a great end of week and beginning of next week. I'll be in Alaska - www.mbari.org/EARTH and back in the office either Weds afternoon or Thursday am. Don't forget the Geology field trip on Monday - 10 am!! be there, it's a great trip.. you'll have a blast. you'll be back by 3 at the latest.

Also, forgot to say anything but next weekend is the Scottish Games and Celtic Festival

<http://www.montereyscotgames.com/>

have fun

Posted by [mage](#) at Jul 27, 2011.

I've only been in lab a little over an hour and it's already a great day. I had an incredibly easy calibration of the Raman this morning, which entails focusing the laser on an almost invisible silicon wafer, and am now off to a running start with some pretty cool spectra. Yesterday I made up several ternary gas mixtures of CH₄, CO₂, and N₂ to test the interactions of these three gases together under varying pressures, which I am now analyzing with the Raman laser. In the grand scheme of things, my project is a reimaging of the wild (and theoretically wonderful) hypothesis that CO₂ can be substituted for CH₄ in methane hydrates on the sea floor, allowing for the mining of these inner hydrocarbons and the deposition/storage of CO₂ - a win-win situation that is unfortunately, more chemically and physically complicated than the binary replacement model currently proposed. There are several intermediate steps that need to occur (or so I'm claiming) before this substitution is possible, and one of them entails an impure mixture of CO₂ and N₂ gas being forced into the hydrate framework, rather than pure CO₂. I have produced evidence that chemical changes occur when all three gases are present simultaneously that fundamentally change the substitution mechanism in regards to pressure, temperature and phase. I have yet to elucidate exactly what those reactions are, and hopefully today/tomorrow that will be sorted out and my proposed revision will be solid. That's the hope anyway, and time is running out! I can't believe next week is my last week at MBARI before flying out to Oregon.

I have spent the bulk of this week prepping for our time on the Flyer, which has been an exciting look into what it takes for a research cruise to be successful (a lot of time, organization, and mind-reading by Peter Walz and Ed Peltzer as Peter Brewer is on vacation in Scotland)! I tried to sneak my way into the driver's seat of a forklift, but so far to no avail since I don't have a special license. I'll keep at it. Next week, I will be finishing up these tertiary data/writing my report/finishing my presentation/packing everything for the Flyer/packing for Philadelphia/entertaining my mom/spending as much time as possible in the Pacific before I leave. Can't wait!

Posted by [ecoward](#) at Jul 28, 2011.

This week has been rather successful, even if it feels like I haven't gotten that much done. The Browse Taxonomical Tree page is (finally!) working again, and I have successfully implemented an algorithm for generating representative images for higher level concepts by selecting random images from the children. It is extremely slow because it pulls a lot of data from the database, but Brian told me this morning that he has a way of writing what I want to do but much faster. He's taken off today, so I'll have to wait til next week for him to do that, but that's alright. I've also made a lot more layout changes based on suggestions from the video lab and still have a few more to make before we meet again. I've also been taking more screenshots for my presentation.

Next week I will be working on either implementing autocomplete on all search boxes or making the tree collapsible/expandable in a more tradition way (think expanding folders in sidebars on most standard PCs with the little +'s and -'s on the left of the folder name). Or both, if I have time! I'd also like to get an old version of the DSG running on my computer so I can take some screenshots of what it looked like before I started. I am also going to work on adding a link to a histogram showing the organism's depth distribution in the comparison table and adding other properties the video lab wanted as well...it is going to be a very crowded table. If I have time, I'd like to make the table customizable by column as well as by row so the user can only look at the properties that they're actually interested instead of always having a cramped table with columns the user doesn't need. All of these are time-based, of course, so I

will do however many of these ideas as I can before August 19th. And of course I'll start working on my paper and presentation.

Posted by [ecurles](#) at Jul 28, 2011.

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This week I started some preliminary data analyses. I got a refresher course in the computer program Arlequin, and ran AMOVAs and a few other statistical analyses to get an idea of the genetic diversity amongst the individuals I have sequences for, and to see how that diversity relates to the biogeography of the tubeworm. I also made some preliminary parsimony networks, which gives pretty much the same information, but in a pretty (and sometimes not very pretty) picture. It looks like there might be more going on with *Tevnia* than a related tubeworm recently studied, so hopefully I have some interesting things to talk about. These analyses also revealed the latitudes for which I need a larger sample size, so I am now going back and redoing COI and cytB PCRs and sequencing reactions for those that did not work the first time. I will get those back next week, edit them, and then I should have a complete data set for those two genes (because they will work!!). I am also still really hoping to have data for a nuclear gene by the end. I have two primer sets that have produced results for a small sample size, and I should have the sequences by next week when I will really know. There are doubts that one of these genes will be polymorphic, but one looks promising, if the sequences come back clean enough. I will find out next week.

Posted by [vflores](#) at Jul 28, 2011.

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Break down of my week:

Monday- don't remember Monday..... moving on

Tuesday- pretty much consisted of asking "God, when you planted the idea of statistics into the mind of the guy that invented it, couldn't you have added a little foot note reminding him not to make it so confusing?" That and bugging Grant for help with graphs- help with I am quite grateful for.

Wednesday- banging my head against a wall while making more graphs- then making even more graphs with Paul- Halleluia! a breakthrough!- Then making tables for the statistics I translated the day before and emailing it all to Linda.

Thursday- Getting answers from Linda, doing more work, getting muddled, getting the muddle fixed, getting muddled again, emailing Linda, and hoping my fix to this last muddle was right. Now I am coming up with what I think the graphs I made are telling me and getting further into the paper.

Next week- paper and presentation Continued.

Posted by [ethompson](#) at Jul 28, 2011.

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So far this week I have accomplished more than I originally set out to achieve. I was attempting to integrate other orders of ctenophores into the key (to supplement the cydippids already present) and I have added almost all known genera of ctenophores now. However, due to the extent of functional differentiation observed between some of the cydippids and other groups like cestids, there have been a number of changes to the questions I will ask in my key. these changes have knock on effects that mean I will have to rescore the entire key, once I am sure on how I wish it to be structured.

I have added screenshots (and very simple vector art) to the features list to show what the specialist morphological terms (substomadael meridional canal, infundibulum etc) mean. This should help make the key more intuitive.

Now that almost all the genera are added and preliminarily scored, the structure is more less set so I have begun the major rescoring. I should have that finished by either today or Monday, leaving the key in a pretty complete state.

The upcoming challenges include successfully uploading the key to the internet (which has proven complex so far), finding a way to export the key into taxonomic software capable of constructing phylogenies (such as Mesquite) and ensuring that the key is easy to use and accurate regardless of the level of knowledge of the user.

Posted by [kmcconville](#) at Jul 28, 2011.

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This week the batch classification results have been processed and detected ALOT of events. Knowing full well that the majority of it will be noise, it is still interesting nonetheless how many frames AVEEdac regards as 'interesting'.

I began the 2nd part of my analysis which I call Man vs. Machine where I would annotate a small randomized sample (5%) of the entire data set and compare with the classifier. I had planned to carry out the more viable 10% sample test, but time is of the essence and some of the clips had a lot more events than others! I created a randomized number generator out of all the clips using functions in Excel. The concept of Man vs. Machine will hopefully give us an insight as to how well AVE DAC (and myself) can perform and classify what we 'regard' as correct. This is one of the most fascinating parts of my project because it is involving a lot of deep thought about how we and machines are actually quite similar in terms of the way we learn. The results will hopefully help clarify this idea!

I finished my annotations today, extracted all the confusion matrices and table of events and now currently pondering a way to combine all of this together. Today has been running on a steep learning curve in terms of getting Excel to do what I want it to do. There are a lot of data points, but aiming to try and get it complete by the end of today. It seems I am doing it an old school way according to my mentor, as she is working out how to use a magical matlab code which SHOULD do it all for me! Its times like these I wish I had a degree or some sort of intuitive experience in programming. watch this space...

Next week will be spent mulling over the results and interpreting what it all means! I will hopefully have finished my methods section by the end of the weekend, leaving only the crucial part of my report to write up.

Posted by [gbwye](#) at Jul 28, 2011.

This is the last fourth working week for summer interns. This is really a good opportunity for me to do research and focus on the project. Appreciate this chance and appreciate all the help from MBARI. This week, I am focusing on the hardware study, wire the McStar instruments and do some laboratory test. Collect some acoustic data. Based on Linux system and window system, I try to plot the acoustic signature spectrum and look in detail about the laboratory database. Some unknown sound was collected by hydrophone, 60Hz. We guess it is from the electronic noise in the lab power supply. So we set up two batteries case for power supply taken place of prior one. Also, with the help of electric staff, I wire new cables for tests. When I have some data, I use Matlab to analyze the spectrum, and find some issues about the setup, the input signals are not stable and not reasonable as expected. Then, I tried several ways to rewire and do tests again. Find some problems: batteries issues, cables issues and computer collection problems. After solving these problems, the test is ready to continue. Thursday, I spent the whole day to read some documents, tried to understand previous research and programming codes, and schedule the goals for next weeks. At the same time, I do some research on acoustic classification and detection, tried to get more information about acoustics, which will be more useful and helpful for my further understanding.

Next, we propose to do tests in the tank and get the real test data. It is the last third week, I must catch up with the schedules and try to get some work done on time.

To do:

1. RE-do the laboratory tests to make sure everything goes well.
2. Do the tank test and collect the real data.
3. Make MATLAB code running and easy to use the code to analyze the acoustic signature.
4. Find the 60 Hz acoustics and do some research on that, try to find out what it is and where it is from.
5. Think about how to filter this acoustic noise if it is from power plants or some else. If it is from underwater ocean floor, that will be much interesting for the further research.
6. Plan to do the field test in the following week.

Posted by [mcai](#) at Jul 28, 2011.

At the end of last week Lonny showed me how the MatLab code works for creating computer mosaics so I've been playing around with that a bit using some images of the USS Macon, an airship that went down off the coast in 1935. Making these mosaics takes quite a lot of computer time but can be left running in the background so long and will just throw up an alert if it needs human input.

So while I left this running I exported all of my data from VARS, cleaned it up, and turned it into presence absence data for all of the taxonomic groups I'm looking at. The computer was still running the mosaic code by the time I had done this so I also taught myself how to make basic 3D images using ArcScene which is really nice in terms of looking at the 3D bathymetry models.

For future data analysis it's looking like we'll be running a PERMANOVA rather than numerous ANOSIMs due to the heterogeneity of submarine canyons and the large number of variable to account for. I'm still reading around all of the info on PERMANOVA to see whether it is what we want or not. It's also looking like we'll be taking random sub-samples of each transect for analysis, although technically pseudoreplication this will hopefully increase our options for analysis.

Posted by [gduffy](#) at Jul 30, 2011.

This week was very exciting! I received the rest of my Atolla slides back from CHOMP and was able to compare the trailing tentacle with the marginal tentacle. There are some very interesting differences and similarities, both of which will become more meaningful once I can decipher, on a deeper taxonomic level, what I am in fact looking at. I spent a large chunk of this week doing research in the library, joining the cnidarian listserver, and emailing various jelly experts and enthusiasts in order to get some sage advice on identification of tentacular ultrastructure. Every day I am getting closer to enlightenment on this situation, but even better would be if I could get some samples through an SEM or possibly even a TEM, to get a better look at these cells and structures. Next week I will be figuring out how to prepare a soft bodied organism to run through an SEM, which will hopefully produce micrographs that can assist me in the identification of nematocysts and other external structures on the Atolla tentacles. Wish me luck!

Posted by [awalker](#) at Jul 31, 2011.

I have to do lot of work in this week to complete my lab work. so I started with another set of cleaned specimens. I managed to mount all of these on epoxy. Then on wednesday I polished them using polishing equipment at moss landing marine laboratories. by thursday I started to observing them, but couldn't complete all. the most difficult task is to distinguish different bands. This week I'm Planning to finish all of my lab work. I have already started my paper too.

Posted by [gayani](#) at Aug 01, 2011.

This week things could have gone more smoothly. On Monday, having completed all of the major wiring, I connected tried to power up the electronics, however the equipment was unresponsive. After some trouble shooting we figured out that the OASIS 4 board may have been shocked and that the Chamber Controller board was also not working properly. On Tuesday and Wednesday I began to write and organize my paper while I waited for a new Oasis 4 and Chamber Controller. On Wednesday I also powered up the Wave Gliders communications system and successfully made contact with the Wave Glider via an xBee radio communication. After establishing communications I received two error messages. After contacting Liquid Robotics and trouble shooting the error I was able to resolve the issue. On Thursday the Chamber Controller and OASIS 4 boards were ready. This time the electronics turned on, however I received several error messages. Resolving these errors will be my primary goal for this week, however it two of the valves did work, so at least some of the parts are working. On Thursday I also made contact with Liquid Robotics in order to set up on communications via the internet.

Lots to do next week but hopefully resolve all of the errors and successfully have our electronics communicate with the Wave Glider communications. Some additional coding will also have to occur because we are adding a CO2 standard which has yet to be used with our OASIS controller.

Posted by [btougher](#) at Aug 01, 2011.

This week I've been working on displaying pH calculated from seasurface temperature, and modelling how it will change with different climate situatuions. This has involved lots of reading and thinking, then reading some more, then asking questions.

My next task will lbe to get get my new fancy color map working, then applying the relationships that I found.

Posted by [sbuckley](#) at Aug 01, 2011.

Last week I collected the data necessary to write up the results section of my paper and finished a draft of most of the rest of it. I also did some comparisons with the LCS data, but haven't figured out a way to formalize that yet.

This week will be finishing the first draft of the paper so that we can finish editing it for submission before I leave. I also have a couple of other measures that I am going to apply my algorithm to to try and solve some of the edge cases that it doesn't work so well on yet.

Posted by [jgottlieb](#) at Aug 01, 2011.

29-July-2010

This page last changed on May 27, 2010 by [linda](#).

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05-August-2010

This page last changed on May 27, 2010 by [linda](#).

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12-August-2010

This page last changed on May 27, 2010 by [linda](#).

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30-June-2011

This page last changed on Jun 29, 2011 by [sbuckley](#).

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!

Comments

This week I completed my routine for detecting upwelling fronts using any of temperature, salinity, nitrogen, oxygen, or density. I trained the system on 11 clear data sets and then applied it to all the Dorado data for the last two years. It's not perfect, but it seems to be okay.

This week will be primarily working on improvements. Improvement #1 is to integrate lat/long data instead of just the distance metric it uses now. Once that is accomplished I will be able to combine Tethys and mooring data with the Dorado data. The eventual goal is to be able to also integrate satellite SST data and ocean current data from the HF radar.

Posted by [jgottlieb](#) at Jun 30, 2011.

A long week for me. my initial project changed as cruise got canceled. so I have to read lot on my new project as it is quite a new field to me. I'm going age urchins we got with the last cruise. I had to go on several trials. so starting with apical discs, then rotula and finally managed end up with interambulacral plates with success.wow...improvement....

next week i'm going to start age determination of urchins of different diameters in different depths. I'm excited to see the results.

Posted by [gayani](#) at Jun 30, 2011.

This week I finally got an answer on how to measure my amperima-peniagone complex cucumbers. I will be including the feeding tentacles and then drawing a line parallel to the body and ending at the posterior end of the cucumber but not on it so not to add extra length with a diagonal line. I have measured over eight hundred and fifty specimens so far, and will have plenty more done by tonight. If I do not finish all one thousand and five hundred tonight, I will continue next week wednesday, and most likely be done by then. My original problem with using the program I was in was never solved, but as I am averaging

about ten measurements per every six minutes (when Grant and I are not feeling distracted 😊), I have no problem continuing with the original program. If I have to measure cucumbers from more dives than this one, then I will run screaming to Dan Davis and beg for help. As soon as I am done with measuring Ken and I will most likely have a meeting about how to go about looking at the time lapse photography, and what data I want from the photos. Then I will go from there- I might even get out of the digital cave for a while and see some light 😊

Posted by [ethompson](#) at Jun 30, 2011.

This week I have been going through videos in order to identify the various canyon habitats based on terrain, substrate etc., attempt to standardise the observations, and determine where transit occurs where there is no view of the benthos. It's been pretty time-intensive but I've finished off one canyon

so far and have identified a few potential issues that may be resulting in the stark community differences between the two sample sets. Based on this I should hopefully be able to clean up the outline data, which is pretty comprehensive in terms of presence/absence, and then run some more analyses.

Next week; playing around with the data a bit more, roulette, more video analysis, hopefully some nice results...

Posted by [gduffy](#) at Jun 30, 2011.

Despite only spending three days in lab, this week was a long one. Monday I finished analyzing the last of the standardized gas mixtures in the lab using the Raman system. Based on the temperature-pressure profiles I created last week, I have successfully shown that there is a linear relationship between the gas pressure, temp and raman spectra, as we hoped, but was not guaranteed with imperfect gases.

Tuesday I traveled to Palo Alto with Dr. Brewer to attend an all-day meeting with members of the committee appointed by USGS/NSF/BP to distribute funds for research concerning the Deepwater Horizon spill. This particular meeting was focused on developing a database to organize and archive all data acquired by such research, and was dominated by slick Silicon Valley data management companies giving demos to less than tech-savvy senior scientists. I came along to meet these scientists, spend time with Dr. Brewer in the HOV lane, and eat the delicious food they served us in the former Facebook offices. It was an eye-opening experience into the more corporate side of scientific research, and I'm very glad I went. I also received a wealth of advice about grad school from the few recent graduates also in attendance, which I always appreciate.

The rest of the week has been spent working continuously with the laser Raman system and finishing off the analysis of sample gases obtained in Barkley Canyon last summer. Next week I'll be headed to the video lab briefly to watch the footage of the hydrates' capture and hopefully draw some conclusions about their dynamic phase change. I'm looking forward to the long weekend and spending as much time outside of the dark laser lab as possible before coming back to work on Wednesday. Have a great weekend everyone!

Posted by [ecoward](#) at Jun 30, 2011.

This week has been one of experimentation and creative thinking. I have been trying to come up with different ways to test the hypothesis that the trailing tentacle of *Atolla* is used for prey capture, but to little avail. After setting live mysid shrimp loose in one of the kreisels, followed by erratic avoidance responses from the *Atolla*, I realized I would have to be more invasive. So I removed the largest individual we have in the lab and put it in a pseudokreisel and proceeded to "force feed" the poor unsuspecting *Atolla*, by taking different potential food items in forceps and applying them to both the trailing and marginal tentacles. I observed some interesting behaviors when I tried to do this with a recently deceased mysid, followed by a recently deceased *Gausia*. I also tried krill, a *Cyclothone* (fish) chunk, and simulated marine snow. The results of this venture will be given in my final presentation, so stay tuned! I also discovered that at least one of the *Atolla* still has the ability for bioluminescence, suggesting that it is able to synthesize all the components it needs to create light, not relying on its diet. In other exciting news, Allison Gong, an expert on medusae (especially compared to myself), will be coming to MBARI today to give me some insight and suggestions for how to proceed with these amazing deep-sea jellies! Maybe she can give me some tips on how to prepare my preserved specimens for histology, which will hopefully be taking place this Friday.

Until Next week...Happy Fourth of July!

Cheers!

Posted by [awalker](#) at Jun 30, 2011.

This week saw a change of project for me, and an accompanying period of reading. My new project focuses on categorising all the different unidentified cydippid ctenophores that we have framegrabs for. To do this I began by spending Monday and Tuesday learning in depth the current taxonomy of the ctenophores (fraught with disagreements) and the nomenclature for their anatomy, so I could describe their features.

I am currently in the process of taking every picture we have of unidentified cydippids and assigning them to arbitrary groups. I am particularly fond of a ctenophore called *Ctenoceros*, and may focus the remainder of my project on this group.

By the end of today I will have categorised the remaining images.

Next week I will meet with my supervisor to go over the groups I have defined and increase my confidence in their boundaries. Following this I shall focus on a particular group (probably Ctenoceros) and attempt to determine how different the group is from other described ctenophore groups, and the morphological characters that define it.

Posted by [kmcconville](#) at Jun 30, 2011.

This week I've been making more improvements to the Deep Sea Guide, including adding the image search and browse tree pages. The first shows images that are found by searching with a keyword (like squid), sort of like google images. It also has a list at the bottom saying which species matched the keyword but don't have pictures yet. The browse tree page (which will be up on the internal server by the end of today, hopefully) shows the entire structure of Knowledge Base, down to the phyla if the selected concept is under the "marine organism" heading or just the children of the main root (object) if it's not a marine organism (if this doesn't make sense, take a quick look at the VARS knowledgebase on seaspray and observe the tree structure on the left-hand side). There are still some layout problems with it and it is displaying way too many levels, but I'm working on that and hopefully will have it fixed today. If not, Wednesday should be enough time to have it totally done.

Once I finish browse tree, I will start working on my own page (all these pages have been implemented before - we are just improving them now and putting them on the new Deep Sea Guide, which is in a different programming language). I'm pretty sure we decided that I will be making a page that does comparison tables for groups of organisms, showing their images and other properties that might help determine what species they are looking at in a video (Linda made some of these by hand, but it would be useful to have it on the Deep Sea Guide so it will update itself whenever VARS is changed).

Posted by [ecurles](#) at Jun 30, 2011.

This week I spent some time on the computer editing sequences that were run last week. When my eyes could not take it anymore I returned to the lab and extracted DNA from individuals from a couple sites that I did not yet have samples for, and then did PCR for COI and cytB, the genes that I have already had working. Those results were positive, so I cleaned the products, did the sequencing reactions, and they are now spending time in Lola, the sequencing machine. I also finally got one nuclear gene working for a few samples, which was very exciting. Those samples are currently being sequenced, and the week after next (since my mentor will be gone next week) we will use those sequences to design primers specific for the tubeworm genus *Tevnia*. The primers I used for this original PCR were designed for a closely related genus, but since nuclear genes are trickier to look at we want to achieve greater specificity. I also tried to draw a picture for the intern t-shirt.

Next week I will complete the COI and cytB PCR's for the remaining DNA samples I already had available and have already extracted. I will also try to complete extractions next week, so that I have DNA for 30 individuals from each site. When I am not in the lab I will be on the computer editing sequences.

Posted by [vflores](#) at Jun 30, 2011.

Week Three: I continued learning SolidWorks and successfully was able to incorporate the OA sensor suite into one of the Wave Glider dry boxes. While this was done on a computer, it is uncertain if all the of the parts will truly fit with all of the plumbing and wiring that needs to occur for the system to work. However I now have a blue print and layout that should successfully allow me to place all of our equipment into a payload dry box. This was essentially the first step in my project, so things are heading in the right direction. In addition to working with SolidWorks and successfully designing a layout, my mentor and I drew out a timeline for when we hope certain milestones will take place. By the final week of the internship (if everything goes as planned) I should be able to demonstrate how the different sensors can obtain information, send that information to a satellite and then review that data on a computer.

Next Week: I will create a plexiglass mounting plate that will be used to mount the various sensors to, which will then be mounted to the payload lid. From there I will start to attach all of the pieces (wires and tubing). In addition to this I will start to review the communication system and determine the best way for our sensors to speak to the control and commands of the Wave Glider. This will most likely be one of the most difficult aspects of the project. Another major road block that will have to be resolved asap will be how to incorporate our plumbing and wiring in and out of the wave glider payload box (its a very tight space where many tubes and wires will need to come in and out).

Posted by [btougher](#) at Jun 30, 2011.

This week has been a bit of a rollercoaster in terms of the success rate of AVED picking up squid. I have been editing the images within the training libraries by condensing the total amount of images the classifier works with and flushing out all the 'crap' image files. This helps the effectiveness of correctly assigning organisms when running the classifier. I am still finely tuning the libraries, testing them under different parameters to see what works and what doesn't. There have been a fair few 'this-doesn't-work' scenarios but hey, trial and error is important in knowing the limitations of a particular system!

I also queried the VARS database to see if there were any relevant pieces of information regarding my squid observations around the EITS site (MARS) in February 2010. I wanted to see if there were any notable clues which indicate their presence. I tried querying for hake aggregations as I believe they may be important in determining where the squid may be lurking and at what time of day. This may help me pick out which chunks of unannotated data from March 2010 I want to process and have squid around the EITS site. There is A LOT of data, so have to choose wisely! There is a high chance there will be no squid interactions, but if there any, I will be a very happy chappy and I can then document their behaviour! This is where the newly calibrated AVED will hopefully churn out some interesting results which may not take place till maybe next week if all runs smoothly.

Posted by [gbwye](#) at Jun 30, 2011.

A long week has passed in a short time. Cannot image the work was running so slowly.

1.Monday, Weekly update meeting and research proposal workshop. I am looking forward to the presentation coming next week, and try to follow some related projects. The rest of day, I work on some reading on Unbutu/Linux system.

2.Tuesday and Wednesday are bad days for me, spent most of time working on Beagleboard installation and booting, but always deal with some issues. Try to step by step, block by block, but always have new problems coming up. End of Wednesday, I can get the beagleboard booting, the monitor can show up the process, the bad side I cannot completely install linux system into the beagleboard. Feel sick.

3.Thursday, have meetings with Wayne and try to figure out the problems lying. Spend around 3 and a half hours (9am-12:30pm), finally we make the beagleboard and linux system running. Luckily. Sorry to be late for the communication with kids. After that, I go back still working on the board, try to make more update and installation. So far, not too far has been done yet. Otherwise, the system in the board is mostly crashed due to my continuous correction. NOT good sign at all.

Next week (another short week), try to make the board working well. Install all the system we need. Try to make this happen.

Work on the hardware update with beagleboard installation, make sure everything can go well before taking it out.

Work on the schedule for the McStar test in the coming week.

TRY TO MAKE A BIG STEP IN THIS SHORT TIME. COME ON!GOOD LUCK!

Posted by [mcai](#) at Jun 30, 2011.

Activities

This page last changed on Jun 16, 2010 by [linda](#).

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 Jun 01, 2010 by [mage](#).

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

News

This page last changed on Apr 30, 2009 by [linda](#).

**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 Jun 30, 2010 by [mage](#).

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)

Schedule

This page last changed on Jun 25, 2010 by [linda](#).

- 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

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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

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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.
- Pronunciations?

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)

4th August 2011

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