What would you like to get out of this RCN? (500 characters or less, about 100 words)	What do you think is unique about the ocean environment as a stage for evolutionary processes to play out? (1300 characters or less, about 250 words)
A scientific community willing to collaborate for future projects or works, to support marine science and conservation, and to make the difference for the future of our blue planet	"Blue planet is one ocean". This couldn't be further from the truth. Although dispersal and connectivity are playing key roles in the ocean, the blurring boundaries in the marine ecosystem are what I consider the stage for evolutionary processes to play out.
Better idea of current state of the field.	The marine environment is one of the last places there is large scale extraction of food resources from wild populations. Humans are placing increasing pressure on marine resources, not only from extraction, but also through habitat degradation and climate change. The scale and reasons for this are not really found in any other system.
I am eager to communicate with fellow researchers and strengthen my understanding of both the fundamental and nuanced principles of evolutionary biology.	Local adaptation was once thought to be rare in marine organisms given their high dispersal ability and the seemingly homogenous nature of the environment they inhabit. We now are aware of the prevalence of local adaptation in the oceans, which suggests that divergent selection often overrides the homogenizing effects of gene flow. This provides the opportunity to study the genetic patterns and processes underlying adaptation in marine systems, and how they are maintained amidst high connectivity among populations.
I am excited to interact with and learn from scientists and professionals interested in bringing tools and approaches from evolutionary biology to bear on questions about adaptation in marine systems, particularly in the context of projecting how marine biodiversity and associated ecosystem functions will be affected by global change. As an experimental ecologist, I am also interested in identifying which study designs and analyses are best for addressing such questions, and why.	Given the global extent of dramatic recent and projected changes in temperature, ocean pH, and food availability due to human activities, understanding the potential for phenotypic plasticity and local adaptation to buffer species from future environmental conditions has been recognized as a critical research priority. The relative severity of the physical environment, strong interactions among species, and consequent rapid turnover of individuals make intertidal and nearshore coastal habitats excellent systems for investigating questions about the causes and consequences of variation in ecological and evolutionary processes. At the same time, trade-offs associated with responding to multiple interacting stressors, changing interaction webs within communities, and the complex life cycle and associated potential for long-distance dispersal of many marine species complicate such efforts. Nevertheless, the importance of marine systems to humans is such that scientists need to move beyond projecting changes in species' demography, interactions, and distributions; we must also incorporate an evolutionary focus to our research by applying existing tools (or developing new ones) to determine the capacity of key species to respond adaptively to rapid environmental change.
I would love to see this RCN act as a bridge between marine ecologists and evolutionary biologists to help create a framework for advancing the interplay between ecology and evolution in marine systems.	Since I focus my work on life history evolution, that is where I find the differences most obvious between terrestrial and marine systems. I am especially struck by the way that marine habitats facilitate and constrain the reproductive biology of invertebrate animals. For example, broadcast spawning is unknown in terrestrial animal systems, leading to an array of adaptations by marine animals to capture sperm and/or attract sperm to fertilize eggs. Similarly, the viscous and nutritious fluid in which animals develop means that dispersal and development as larvae is unique to the ocean environment for animals.
Ecological processes are implicit in my interests and results, but a broader knowledge base will help me outline more explicit expectations moving forward. As a member of the RCN-ECS, I affirm my interest in ecological process and changing seas, and develop my scientific network. I have organized a reading group that will discuss the coordinated readings; as part of this group I will learn and re-connect with like-minded colleagues that now live in other parts of the country.	Biological rules help organize and improve research, which leads to clearer understanding. Many biological rules depend on an organism's size and life history but are disproportionately defined using data from vertebrate and terrestrial systems. As the ocean is home to diverse and, in some cases, endemic phyla, these biotas can challenge expectations that otherwise appear universal. I have and will continue to test the boundaries of biological rules using the comparative method. When rules are consistent in both marine and terrestrial systems, it suggests that similar evolutionary and ecologically processes govern life despite the many physical attributes that set the ocean apart from oft-studied terrestrial habitats.

I'm more of an evolutionary person than an ecologist, and most of my previous work has been in estuaries and coastal areas. I'd really like to be able to collaborate with people who have a deeper knowledge of marine systems, particularly farther offshore. I'm also really interesting in learning about the biotic and abiotic dynamics of climatic shifts in marine systems. Finally, I'd love to find opportunities to use new statistical methods to make predictions.	I'm interested in the evolution of adaptive dynamics in really complex environments, and one aspect of oceans that is interesting to me is the way that anthropogenic change might affect the way adaptation occurs. Oceans have a number of competing cyclical dynamics (e.g tides, currents, thermal cues) as well as some really stark gradients (e.g nearshore to offshore, shallow to deep). Anthropogenic change, as manifest in climate change and/or development, distorts these niches by disrupting covariance between environmental cues. As the fitness optimum moves, these anthropogenic disruptions might generate interesting kinds of regulatory evolution and GxE effects at the genomic level as well as adaptive or maladaptive phenotypic plasticity at the organismal level. In turn, it would be both interesting and useful to use a new understanding of these effects to predict how ocean communities might respond to anthropogenic disruption over evolutionary time. Studying these responses in a marine system is especially important because oceans seem to be understudied compared to terrestrial systems, despite the considerable risk they face from anthropogenic change.
Knowledge exchange with other scientists and different perspectives on marine evolution	The global implications that ocean process can easily have even if the change seems subtle
A better understanding of evolutionary theory and how to design ecological studies so that addressing evolutionary questions is possible as well.	The ability for animals to take advantage of dispersal modes of reproduction and the potential for populations to be connected via larval drift.
Learn	Presumably the cradle, wide array of speciation, numerous systems to study adaptations and evolution
I would like to learn more about gaps in our understanding of the evolutionary biology of nearshore and pelagic marine systems and identify projects/needed work to fill those gaps. I would also like to participate in the Synthesis Workshop and working group papers to help synthesize this information and genomic approaches for addressing the key open questions that are identified.	Marine invertebrates provide ideal systems for understanding gene flow and speciation over a diversity of larval development modes. Additionally, while a received view in eco/evolutionary genetics is that marine organisms generally have less discrete habitats and geographical barriers, leading to limited population structure. However, marine fishes such as those distributed across the Isthmus of Panama provide an excellent model of allopatric speciation, and recent molecular surveys of a variety of marine organisms seem to indicate more population genetic diversity, structure, or evidence for local adaptation than previously expected.
I would like to gain knowledge in the field of evolution from evolutionary biologists; sharing research ideas in the marine field and creating a network of researchers dedicated to understand how organisms are adapting to changing oceans; learning what others do in terms of adaptation, evolution and plasticity; publishing exciting research.	From the oceans originated life on our planet, as simple as that. The ocean environment is alive, a continuous transformation of conditions, which affect organisms living in it. Is therefore inevitable thinking that, if there is a place on earth where evolution is taking place just before us, that will be the ocean. The little knowledge we have about our oceans, must push us to discover more and more about how evolutionary processes play out in the oceans. The idea that species are rapidly adapting to a changing ocean and somehow "resisting" to the anthropogenic climate change, is fascinating as well as very much realistic. If we think as a little costal invertebrate who release larvae into the oceans, how many chances we have to see again our offspring? How certain we are about their future? Can we predict their conditions during their journey towards new habitats? So I would rather facilitate a spreading of a huge array of possibilities (i.e phenotypes) to cope with this uncertainty. If this is true, the raw material for natural selection to act on in the oceans, is limitless and we are underestimating it. Understanding the mechanisms behind evolution in the oceans is even more urgent if we think that, as we speak, our ocean is changing at a very fast rate.

Increase expertise in Eco-Evo dynamics and establish fruitful collaborations	Despite covering more than 75% of the planet surface, our understanding of the Oceans remains comparatively low. The lack of physical barriers can promote species interaction and eventually speciation. The absence of physical barriers also allows species to move towards the poles in response to increase water temperature. How would new arriving species interact with the resident species from the higher latitudes? Would this lead to the extinction of resident species? Or to the adaptation of the residents species to accommodate greater level of competition? Such questions would gives important insights in the evolutionary and ecological process of species response to climate change.
I would like to receive information about funding opportunities, PhD listings, and collaborations. I am also eager to receive information about recent research and relevant publications	Compared to the biodiversity and competition I see in my work in the Amazon rainforest, the oceans have less competition to drive evolution.
I would like to meet new colleagues as well as discuss interesting science with current colleagues. This would be my first RCN so some experience in how they operate and what they're good for would also be desirable. Advancing the field by interdisciplinary (or inter-study system at least) discussions is always exciting as well.	I think evolutionary patterns can be fundamentally different in the ocean versus on land and much of the central dogma is terrestrially driven. Ocean environments are also host to a multitude of different habitats, niches, trophic strategies, etc. that provide unique opportunities to study evolutionary processes. Also, all life originated in the sea so that's kind of relevant for understanding evolutionary processes.
Most useful to me at my career stage would be postdoc/job opportunities, networking, collaborations, and funding opportunities. I would also be very interested in workshops on studying evolution in the sea, specifically focused on lab and bioinformatics techniques for genetics at the intersection of evolution and ecology.	The defining difference between marine and terrestrial ecology is dispersal. Marine systems are unique in the ubiquity of dispersing non-reproductive larvae with behaviors to control their dispersal. The closest to this on land are wind dispersed seeds but these seeds have no behaviors and no need to feed and grow before metamorphosing into the adult. Marine dispersal sets the groundwork for genetic variation that evolution can act upon. Since this dispersal depends on vulnerable larvae in variable oceanographic conditions, it is easily perturbed by changes to the status quo. Furthermore, these larvae have evolved under entirely different selective pressures than the adults, leaving open many questions on differentially adaptations of these different life stages and how selective forces acting on one life stage influence another stage.
I hope that this RCN can lead to collaborative opportunities, especially for data-model integration on the topic of adaptation to global environmental change in marine systems and how it affects conservation and natural resource management decisions.	The greater viscosity of ocean environments increase the capacity for passive dispersal and increase energetic costs of active dispersal. The likelihood of dispersal, and whether dispersal occurs as passive or active, determines the distribution of diversity through both changing the potential for local adaptation and the potential for connectivity between locations with different evolutionary histories, two key components of evolutionary processes. This distribution of diversity, and its potential mobilization via dispersal, is what underlies adaptive capacity future environmental change.
collaboration, synthesis, new ideas, cross-fertilization from evolutionary biologists	The vast differences in generation times (unicellular to long-lived fish, mammals); the greater connectivity of ocean vs. terrestrial habitats
I would like to gain knowledge on the inner workings of the adaptations occurring without our oceanic ecosystems especially when so much is being altered due to human impact and global climate change. I would also like to broaden my connections past my current area of study.	I think that the oceanic environment has been one of the most versatile environments to host evolutionary processes. We have seen throughout history that almost all species began in an oceanic environment in some way, shape or form and I think that since it has such unique environments on such a grand scale, species are able to undergo constant shifts in adaptation to new environmental and genetic change.
Collaborations and as a stimulating environment	The hypothesis that life began near deep sea vents suggests that evolution has influences the life in the sea over a long timescale. Evidences of a wide variety of evolution strategies in marine ecosystems has already been reported and investigating them may bring important insights on evolutionary processes in the wild with a broad perspective.

I'd like to gain exposure to a broader diversity of marine science research and learn effective strategies for utilizing skills and information from multiple sources via collaboration. I am also hoping to get a better sense of what the most prominent and universal research priorities are within our diverse discipline. Mostly, I am looking forward to the creativity and problem-solving orientation that results from regular dialogue with colleagues outside the reach of your day-to-day bubble.	The same processes that make it challenging to study evolution in the ocean are the very features that stand to reveal the most about how organisms respond to the complexities of their environments. The sheer scale of oceanographic processes and the spatiotemporal landscape in which they unfold preclude the development of hard and fast rules. We are continually forced to find the exception and to reconsider our assumptions. Though it makes for a complex picture, the resulting knowledge reveals how subtle environmental differences can have large consequences for species in what otherwise might superficially dismissed as a homogenous environment. Such small scale changes form nothing less than the very foundation from which natural selection emerges.
I consider myself a behavioural ecologist, and I value an integrated approach and I try to link, in my projects, theory with field observations, manipulative experiments, modelling, phylogeny and molecular techniques (including metabarcoding and eDNA). I am looking forward to discussing and collaborating with researchers in different fields, also to cover a broader taxonomic range and to perform a broader, multi-taxa, pluralistic and multidisciplinary approach.	I work with aquatic organisms, in particular fish and crustaceans. Those two groups, mainly (but not only) marine, include a tremendous variability in sexual systems (from gonochorism, to simultaneous and sequential hermaphroditism, etc...). They are also extraordinarily specious and present a great variety of life history traits. The marine environment, given its large coverage, physic and chemical variability presented a great evolutionary stage and I am interested also in changes in life history traits of crustaceans who moved from marine to freshwater habitats
My goal is to study evolutionary questions in marine systems. Since I'm very early in my career, I have a lot to learn about both of these areas, and in particular I think I'd benefit from learning about the intersection of evolutionary and marine biology, so this group and the coordinated readings are a good opportunity for me.	The oceans are home to incredible biodiversity that is nonetheless understudied. I'm particularly interested in studying non-model organisms from under-sampled areas of the tree of life, because that's the only way we can understand how evolution has produced the kind of remarkable diversity we observe. Ocean habitats also have longer evolutionary histories than terrestrial ecosystems.
Expanding my nework, keep track of the latest research development in the field	The apparent paradox between the lack of hardwire barriers to gene flow but yet tremendous species diversity: how come?...
Collaborators, broad perspective on the latest and greatest in the ocean, new ideas about approaches, a feeling of satisfaction from contributing to something important and synthetic. Opportunities to talk about the ocean and marine invertebrates and evolution with so many great marine people I don't see often enough anymore!	The ocean has been at it for longest, and so has the coolest deep-scale variation in body plan and should have high potential to escape from constraint when it's possible without colonizing a novel (e.g., aerial) environment. It also has the poorest information/hypotheses about what was where when (e.g., where did members of the same family or even genus diverge, and who were they interacting with). Within species, the longstanding belief in large scale panmixia has given way to surprising evidence for population divergence and fine scale microhabitat variation. So either currents are complicated and important at very fine scales, or the ocean is the perfect place to study behavioral impacts on colonization and effective gene flow.
Stay current	Broadcast spawning, connected environments, lesser studied ecosystems,
Work with the network to identify key theoretical frameworks within which to develop experiments/questions. Also, synthesize computational methods and best practices for analyzing Next Generation Sequencing Data.	Broadcast spawners with large effective population sizes and dispersal distances that span environmental gradients are ideal for testing theory and documenting the dynamics of fine-scale (spatial and temporal) evolutionary processes.
This RCN appears to be an excellent way to connect with others around the globe for this important issue of evolutionary change in a time of rapidly shifting marine environments. The sharing of a variety of perspectives can also help shed light on these issues. In particular, I think an international perspective is very important for marine related research.	Gene flow versus isolation can be very challenging to resolve in marine systems; i.e., what may represent possible boundaries to gene flow. In addition, organisms that cross marine and terrestrial boundaries (e.g., intertidal organisms) are fascinating because they have adapted to surviving in two very different realms; yet their reproduction is often tied to the marine realm. Competing evolutionary pressures like these are very interesting to me.

The RCN is an opportunity to observe the standardization, improvement, and synthesis of solutions to complex problems in evolutionary biology. For example, the phrase “ assessing the capacity for adaptation” is one that myself and other biologists often evoke. However, this capacity is a multifaceted property of life that has yet to be deconstructed or defined so that it can be effectively studied. By engaging with the RCN, I will learn how to contribute to these issues throughout my career.	Certain regions of the marine environment are unmatched in their biodiversity and heterogeneity. Here, taxa that have diverged over millions of years have adapted to the same environment despite differences in the ancestral states of pathways that are crucial for adaptation to their common environment. Within a narrow geographic range, environmental heterogeneity can cause steep differences in selective pressures among populations of the same species. Populations of marine taxa with wide larval dispersal have been shown retain both poor or strong genetic structure across these environmental gradients, indicating that environmental selection acts upon species differently. It is still poorly understood what traits contribute to differences in the action of selection across species/populations. Many marine species with poor population structure still exhibit strong phenotypic differences across environmental gradients which, on the surface, suggest local adaptation. Here, marine ecosystems afford us an opportunity to observe how non-genomic variation contributes to phenotypic divergence at short timescales. For an evolutionary biologist, marine habitats are a trove for examining convergent and divergent patterns of adaptation at multiple levels of biological organization.
My specific motivation for joining the RCN is my complete passion for ocean sciences. I have had an overwhelming desire for my entire life to protect the oceans. Toward that end, I am working to connect resources in the State of Florida to promote conservation and restoration efforts. Working within this RCN will provide me a broader foundation for research and outreach. Additionally, I would like to increase my network to better promote coral reef restoration.	The ocean is being subject to the full, dynamic suite of abiotic stressors seen in the Anthropocene. Life, under the sea is being affected at a fundamental level by increases in sea surface temperature, ocean acidification, increased sedimentation rates (among many other stresses). These combinations are causing extensive changes in taxonomic gradients and ecosystem structure. Among the many organisms that will be negatively affected by climate change are the sessile, ecosystem engineers. Many sessile organisms and the taxa that rely on them must adapt in situ, or they will go extinct. The downstream effects are that marine life that may be indirectly affected must also adapt to the multiple stressors. For instance, sea turtles affected by increased sedimentation if sea grass does not adapt to increased sedimentation. The combination of changing environmental gradients, dynamic species interactions, novel feedback mechanisms, and the burgeoning field of epigenetics and bioinformatics, highlight why the ocean environment is an ideal place to study evolutionary processes. It will be an interesting, albeit, sometimes tragic, ground for studying and potentially Marine communities and their interactions to be ideal areas for studying biological adaptation in a changing environment.
Starting collaborations and research on marine systems, start working on global change	Connectivity, combined with steep environmental gradients along shorelines.
An appreciation for the methodological needs of the community of empirical marine researchers, as well as for the natural history of marine systems generally	Food chains can be longer, the environment is 3-dimensional, so the "fish's eye view" of the world might be more complicated, potential for big population sizes, even for vertebrate species.
I'm excited to meet diverse scientists who share my interest in the evolution of marine organisms. I think it is particularly positive to interact with people working on similar questions or systems, but from different perspectives. For example, I work with pelagic organisms, but know little of the physical processes of the ocean- talking and working with people more familiar with this field may lead to unique, important ideas that we would not have considered independently.	From a physiological perspective, I think aquatic animals tend to interact more intimately with their environment than terrestrial organisms (i.e., on an individual level, it is hard to quickly choose habitat of a different pH, salinity, etc.). I'd also say that the relatively high gene flow across large geographic distances is more common in marine than terrestrial (or fresh water) environments. This creates interesting opportunities for transfer of adaptive alleles, mal-adaptive gene flow, etc.

Being a part of RCN will place me in an extremely advantageous position to discuss and exchange ideas with leaders in my field and increase the scope of my research. In addition, membership of RCN will enable me to grow an international network of peers. This is particularly relevant to me as an early career researcher, as I am aiming to enhance my research profile and employability in academia.	The marine ecosystem is a fundamental part of the Earth system, and of particular importance are marine microbes. The smallest marine organisms, phytoplankton and picoplankton (including both picoeukaryotes and prokaryotes), make the largest contribution to the total atmospheric carbon and nitrogen fixation in the ocean. These tiny organisms are the foundation of ocean ecosystems and are responsible for approximately 50% of global primary productivity. What makes marine microbes unique is their enormous potential to evolve and adapt to changes to their environment. Due to their large population sizes (estimated ocean plankton contains 10^29 cells) and short generation times (up to 1 cell divisions per day), marine microbes have potential for rapid evolution over short time scales of months or years. Such evolutionary change has the potential to cause changes both in primary production and species composition. It is therefore crucial that we understand evolutionary responses of marine microbial communities to global change if we are to make informed predictions as to how these communities will be composed in the future, and the consequences to ecosystem services they provide.
Network possibilities, workshops, collaborations and cutting edge knowledge exchange.	It is made up by so many ecosystems and microhabitats while being disected by various environmental gradients all contributiong to convoluted species ranges and possibilities for adaptation and evolution.
I would like to network with other scientists interested in the marine ecosystem and how it has and will adapt to ongoing environmental chance. My hope is to establish new collaborations across disciplines and contribute to future research in the marine genomics field.	Working in gray whales, one of the main features I find very interesting is the lack of obvious barriers to gene flow in the marine environment. It raises the question of what drives population structure in marine species like cetaceans. How species have adapted to different niches is also intriguing. In particular how they have responded to past environmental change (i.e., human impacts such as commercial whaling, fisheries, pollution, and global warming) and how they will adapt to future changes.
I am especially excited by the premise of this RCN as I often think about evolutionary biology in the context of ocean change, marine ecosystems, and marine host-pathogen interactions. However, most of the questions I ask are in the context of the current ecology of the system rather than the evolution of the system. I'd love to be able to discuss my ideas with evolutionary biologists, both from the context of the host and and the pathogen.	The ocean provides an intriguing interconnected environment forged by unique physical and biological characteristics. Change in the ocean may be driven both by natural and anthropogenic large scale forcing as well as the niches forged between and among organisms (or a combination thereof). A range of environments exist in the ocean, including those well-connected to land such as coastal zones and those far-less connected, such as the deep ocean. The ocean habitat is also 3-D in nature, and organisms often provide the structure of ecosystems such as temperate and tropical reefs built by invertebrates (i.e. oysters and corals) and large-scale seagrass meadows. Diverse organisms (i.e. ranges in types and size) exist in ocean habitats allowing for a wide range of questions regarding evolution. Interestingly, microbes underlie many processes in the ocean, and are a large component of every drop of sea water. The ocean provides a biodiverse range of organisms which exist in all types of symbiotic interactions. This provides a rich backdrop for studying the co-evolution between and among organisms, including marine host-pathogen relationships.
A better understanding of the population-, and quantitative-, genetic consequences of variation in mating systems and larval dispersal in stochastic ocean currents for rapid adaptation. Develop a network of peers to steer and advance the field of marine evolution. Expand and advance general evolutionary theory through a greater consideration of how marine organisms solve evolutionary problems, and greater dialogue between marine-focused and terrestrial-focused evolutionary biologists.	The constraints and opportunities for reproduction and the movement of gametes, larvae, and genotypes, in a fluid suspension are different (to that on land) because of things like the viscosity and specific heat of seawater, the supply of food and oxygen, diffusive processes, and water currents in the ocean. This influences reproductive success and redistributes genetic material in ways that lead to potentially higher variance in fitness, dispersal that is more ‘clumpy’ and stochastic, selection regimes that are more variable and unpredictable, and potentially unique solutions to common life history problems. Stochastic ocean currents either frustrate adaptation, or are themselves agents of selection. Observed patterns of dispersal in marine systems may often be a by-product of selection on traits with other functions, rather than direct selection for dispersal, more so than in terrestrial systems. The velocity at which environmental predictability, seasonality, and variability is changing might be different to that on land.

I would like to connect with other scientists interested in collaborating on the work I'm currently doing or expanding my questions into other systems.	Physical oceanography facilitates widespread connectivity, oceans are impacted by nearly all negative impacts of climate change (temp, pollution, development, habitat loss, etc.), and marine resources also must contend with and their populations are severely impacted by human harvest.
Networking with those who can provide incites and resources pertaining to climate change and marine ecosystems.	There are many model organisms that can be used to provide strong indications about the severity of climate change. In addition, the ocean provides many resources, ranging from food to medicine. Protecting and conserving the ocean should be our number 1 priority.
From this RCN I want to stay in active discussions of the coordinated readings and use local discussion groups to help others stay connected with important research and potentially use the local discussion group as a tool to help get younger undergraduates more active in research, keeping up with the literature, and the importance of diversity in STEM fields, thus helping propagate more active and better undergraduate scientists.	The ocean's ability to trap heat is an underrated characteristic that land environments lack. This ability to trap heat was crucial for the origin of basic of life, such as in the RNA world hypothesis. From single celled organisms to multicellular organisms, much of marine line relies on ocean temperatures for their own body temperatures. Due to this factor, marine life can be very sensitive to thermal changes. Once a crucial factor for the origin of life, this ability is now becoming detrimental to marine life. Unprecedented rises in ocean temperatures from climate change have created a new dynamic in oceanic systems. Due to these changes, plasticity may play a larger role in evolutionary processes than before, buying organisms more time to better adapt to a new temperature threshold. Understanding the processes by which thermal acclimation occurs and how it relates to adaptation in marine life is an interesting process to observe and a crucial one to understand.
learn more myself about the field's intersection; have interesting discussions	advection makes physical environment a top priority in evolution of life histories and genetic patterns. This makes things very different from terrestrial realm--we cannot simply "borrow" terrestrial theories without modifying them appropriately first.
I am keen for collaborative exchanges in research and to gain a better understanding of marine systems evolution as an exciting and important new area of research.	As for plants on land that propagate both by broadcasting pollen and asexual propagation there is great capacity for adaptive plasticity and evolution associated with the great diversity of life history strategies in the sea. The unique microbial-animal symbioses in the sea are also a key defining feature that we know so little about. Both features - propagation in the sea and the microbiome are unique to the ocean environment. The ability of animals to make rocks out of water (biomineralization) and the associated intricacies of carbonate chemistry are also key unique features of the ocean.
I hope to develop collaborations that will allow me to continue an active research program in marine evolutionary biology despite being far from the coast, and work with partners at larger research institutions in ways that are complementary (e.g. I have plenty of resources for phenotyping experiments but lack the infrastructure and grant support for genotyping).	I'm particularly fascinated by the fact that many marine species have multiple parts to their life cycles, with different degrees of connectivity, different ecological requirements (eg food, predators), and different selective pressures among them. How changing environments will influence a species will depend on how multiple life stages respond, including how dispersal/connectivity itself may change as conditions change.
I'm often a conference outlier. Either the conference is focused on evolution and I am the only one working in the marine realm, or the conference is focused on the marine, with few evolutionary biologists. By joining this RCN, I hope to be part of a broader community of people who share my interests and who are eager to learn more from one another.	The ocean environment presents several unique challenges that are particularly visible in the inter-tidal and estuarine habitats, where organisms are subject to tremendous temperature, salinity, uv, and wave action stressors, and biotic interactions. Such multifactorial stressors are compounded in temperate environments where conditions change seasonally as well as diurnally.
I would like to develop innovative evolutionary perspectives to disentangle the genetic structure of fish populations and stocks in both spatial and temporal dimensions and the interpretation of the correlated demographic parameters	Increasing numbers of paradigm shifts we have evidence for, which represent a challenge for the correct delineation of the different biological units. This spans from the speciation process, which in the marine realm reveals often so-called sibling or cryptic species, to the within species level where local adaptation is often found to be in a delicate balance with gene flow in marine species. [1]
From my participation in another NSF RCN, I appreciate their value in sparking new collaborations and new lines of inquiry from those collaborations. Cross-fertilization producing innovation. I'd be excited to build new relationships that can take my marine evolutionary research to new places.	The great biological diversity and the often large magnitude and geographical scales of dispersal of marine organisms are key aspects of this "stage" in my area. Given the historical importance of, for example, many marine fisheries, records and specimens often exist for marine systems that provide unique opportunities to reconstruct evolutionary histories.

My interest in the ESC RCN is three-fold: 1) to be exposed to the diverse perspectives and approaches this community provides in testing hypotheses at the intersection of oceanography and evolutionary ecology; 2) being a fourth-year graduate student, to diversify my research network, as I've only met Morgan Kelly and Huijie Xue; 3) to form novel collaborations that over the course of five to ten years will, in part, aid in establish my research laboratory and complementary research themes.	Evolution in the sea has been shaped by a diverse and interacting suite of oceanographic features that can be grouped into four tiers of selective pressures: physical, chemical, biological, and microbial. These selective forces and their synergy have led to many unique evolutionary trajectories, phenotypes, and life-history modes, especially at low Reynolds number, where much of ocean life resides and where lagrangian principles are contrary to intuition. In particular, what I find to be unique and intriguing about the oceanic sphere and related evolutionary processes in the sea is that each of these four tiers of selective forces have be traced to host phenotype or related aspects of host biology. Sea urchin larvae, for example, have sensory systems that detect physical features of the sea spanning magnitudes in spatial scale; show genomic and physiological adaptions to local ambient acidity and resistance to ocean chemistry; and cope phenotypically and microbially with biological oceanographic conditions. Thus, when empirically manipulated or under unfortunate circumstance of human behavior, we are able to specially test how these animals are uniquely adapted to, coupled with, and plastic to everchanging oceanographic processes.
Personally, collaboration; globally, to help protecting our oceans	I am particularly found of understanding the relationship between morphological and genetic evolution in sea species. Following the seminal paper of Knowlton 1993, why do we have so many sibling/cryptic species in the sea? Is it because species rely in chemical communication rather than visual communication? Is it because (for some cases) population sizes are big and morphological changes get buffered? Demographic processes leading to bottlenecks?
Stay current on research in both marine and evolutionary topics	The marine environment has not only the liquid medium aspect (e.g., hydrodynamics) but salinity as well that make it unique relative to freshwater and terrestrial environments. Anthropogenic processes that occur hundreds to thousands of miles away have direct impacts to the global ocean. The oceans are facing increasing rates of environmental change that are unprecedented in recent geological time. Although we understand that how marine organisms will respond to changing environments is based on their evolutionary history, the onset of the Anthropocene has created an entirely unique environmental situation. Predictions on organismal responses are critical for both ecological and economical reasons, yet making accurate predictions will be a challenge.
I would like to collaborate with evolutionary biologists and discuss about climate change effects at the organismal, population and community levels.	The marine environment is a prefect scenario for understanding adaptation at local scales.
I would like to gain an evolutionary perspective. I have forecasted the impacts of climate change on species and their interactions but largely ignored evolution. I am starting to realize that our forecasts may miss the mark because they do not consider evolutionary forces. I would like change my thinking.	The diversity of organisms, body plans, life histories and strategies is amazing and weird. I think we have a lot of discoveries to make!
Discussions during workshops and potential collaborations	Not being a specialist of ocean ecosystems, I have the feeling that they are under-studied and that their ecology and evolution are not as well understood as those of terrestrial ecosystems, despite their importance for biodiversity. For this reason I feel I have to learn more about them, and contribute to their understanding where possible.
I am particularly interested in initiatives from this network than bring together scientists (and/or other stakeholders) from varying disciplines to improve our understanding of evolution in the sea and apply resulting knowledge in real world management and conservation scenarios. Specifically, I am interested in for example workshops, conferences, joint paper plans etc.	As a scientist studying (mostly) fish, I find that the most striking difference between land and ocean environment amounts to the fact that spatial processes are often fundamentally different in the sea. Dispersal and connectivity for example are shaped strongly by currents and other oceanographic features and not only physical barriers. In addition we only begin to understand how local adaptation shapes marine populations and what consequences this has. In order to preserve at least parts of our oceans in (somewhat) natural conditions it is imperative to understand both contemporary and historical evolutionary processes of marine organisms.

Interaction with colleagues asking similar questions (especially including those I have never had the opportunity to talk with in person before)	The ubiquity of larval dispersal and subsequent high rates of gene flow is, in my opinion, the defining characteristic that differentiates evolutionary processes in the ocean environment.
I feel that this RCN provides a great opportunity for me to grow in the way that I approach and think about my research. Much of what I do (or plan to do) involves investigating how evolutionary processes play out in marine communities. As a (very) early career scientist, having a network to query when I need advice or input on a problem would be incredibly beneficial.	To me, the interesting thing about studying marine communities is that evolutionary processes often occur at a different scale and scope in the ocean than they do on land. Marine populations tend to be very large, and experience much more gene flow than their land-based counterparts. Marine populations also tend to exist in a more stable climatic environment. Both of these factors, and others, impact how we should estimate and think about things like effective population size, genetic drift, inbreeding, adaptation, etc.
Ideally, to work towards some common goals, to create collaborative projects and supervise projects, to see new ways of using my skills to address questions in marine ecosystem evolution, to make new connections with researchers with similar interests.	The huge variety of habitats present, the vast geological history, and the staggering diversity of species and forms suggest the marine realm is a fascinating source of inspiration for evolutionary questions. Particularly what forces may control speciation and phenotypic evolution, in what might be regarded as a 'open' system relative to freshwater environments.
I want to learn more about marine science.	Unique and harsh environments with very different limiting variables.
Broader understanding of research with similar focus to above	Connectivity among populations and individuals has interesting implications for species
Networking, i.e. I would like to connect with other marine evolutionary biologists, other evolutionary biologist and marine biologists. I hope this will lead to collaborations, proposals and manuscripts but also provide me with other perspectives, approaches and considerations.	I think the single most important difference is the potential for long distances dispersal and population connectivity.
An improved conceptual understanding of eco-evolutionary dynamics	Habitat continuity relative to terrestrial systems makes the ocean environment unique. Marine environments are not as a heavily fragmented by anthropogenic activity as terrestrial systems. Therefore gene flow and forces of selection in marine environments may occur at different scales than observed in terrestrial environments. This makes me think that evolutionary responses to climate change in marine environments may unfold differently than in terrestrial systems.
Interaction with scientists from other fields to develop paths for moving beyond describing evolutionary patterns toward applied studies of adaptive evolutionary change in response to rapidly changing environmental conditions.	Ocean habitats dominate the earth yet we know comparatively little about marine biodiversity and the processes that generate and maintain it. This is concerning because global change likely affects marine environments more rapidly and we're already seeing evolutionary responses to these changes at much higher rates in the marine organisms that have been studied relative to terrestrial species. The long-held view that increased connectivity in the marine realm should lead to less spatially divergent selection and local adaptation is constantly being challenged with increasingly available genomic data from marine organisms. We now know that the marine environment is very spatiotemporally dynamic and many factors such as habitat preference, philopatric behavior or physical and ecological barriers to dispersal can promote genetic structure and potential adaptive evolutionary change in species with high mobility and potential for gene-flow. This requires a paradigm shift in the way we think about evolution in marine systems and how marine organisms are likely to respond to rapid global environmental change if we are to manage these species effectively into the future.
I hope I can learn even more about evolutionary biology in marine systems, make a greater network with some possible new collaborations.	Concearning to my reaserach interests, ocean environment has a unique role related to the origin of the fisrt animal lineage
Connections with fellow ocean ecologists, as well as a better understanding of the utility of genetic methods.	The sources of environmental variation in the marine environment are substantially different than the terrestrial realm. The fluid forcing in particular allows for different dispersal methods and strongly uniform body plans.

This RCN seems like a great way to connect with like-minded researchers! The journal club discussion so far has been great. I think I would greatly benefit from the evolution of ideas about marine evolution that might result from such a network. I am sorry that I didn't see the application for the synthesis workshop until just now, but I would be happy to participate in one of the resultant working groups if space will permit.	The fluid medium of the ocean is the most obviously unique characteristic of the marine environment. This medium often supports the evolution of life histories that include a tiny dispersive larval stage, which can potentially disperse thousands of kilometers from its natal site, or not at all. The nutrient richness of the ocean supports populations that can number in the thousands or millions (depending on how you define a population). The large size of marine populations and their large potential for dispersal mean that evolution in the oceans is operating in a different part of population genetic parameter space than terrestrial populations. Selection should be especially effective in a low-drift environment, while on the other hand the potential for gene flow from distant populations may limit opportunities for local adaptation. Such a situation is ripe for sympatric or parapatric speciation if strong selection at certain "speciation genes" such as bindin is able to overwhelm gene flow. This area of parameter space (which I call "The Waples Zone" after Robin Waples' influential 1998 paper) also makes the study of marine evolution difficult. How do you determine outliers if Fst can range from 0 to 0.5 for a realistic vicariance scenario? (Crandall et al. in press).
Fraternity: A place where I can connect with people with common interests. Also, a resource (tools, ideas, approaches).	Ir depends. Estuaries are a bit like islands; so they provide a great model for looking at local adaptation. On the other hand, coastal and open oceans are heavily influenced by dispersion; so they provide a challenging opportunity to look at the interplay of local adaptation and gene flow in determining population traits.
	Underwater chemico process dynamics has role to play in evolution of animal movement and distribution.
I would like to better versed in what is going on in this field and I would love to see some collaborations come out of this RCN. We are always looking for biophysical modelers to contribute to our population genetics and we are interested in using more machine learning techniques to help predict phenotypes from genotypes.	One of the things that is unique relative to terrestrial systems is that populations in the ocean do not necessarily exist as discrete units. Dispersal and migration are much more difficult to assess and the fieldwork that is required to gather data can be much more challenging. We also do not have a great understanding of how climate change will influence dispersal/ocean currents.
An excellent research network of diverse backgrounds for multidisciplinary collaboration.	High connectivity, high population sizes and extremely high genetic diversity. Many long lived, sessile organisms which are difficult to culture and do manipulative experiments on. Complex systems in a difficult-to-study environment, which makes them poorly known to date. Very exciting!
I hope to get new ideas and insights into experimentally assessing adaptation costs for organisms undergoing selection and adaptation in changing climates.	Ocean environments provide constantly changing environments that are rarely homogeneous or stagnant. Considering this, it is important to incorporate how the environment might respond to factors like changing climate or ecosystem-organism dynamics. This makes processes of evolution much more interesting to investigate because dynamic systems that can impact short term stress coping strategies (i.e. heat waves, tidal flushing, etc.) have to be accounted for when considering long-term evolutionary processes. The average temperature over an entire year may not represent how organisms can cope with sudden changes in environment, and how subsequent populations respond. The fact that marine systems are so dynamic make them unique on small and large spatial and time scales that provide an overwhelmingly large network of possible scenarios that need groups of researchers to tackle together.
Learn new things from researchers of different fields, and create new contacts.	The oceans are extremely dynamic, diverse, resilient, and vast. These properties make the oceans be a giant continuum from many extremes allowing species to diversify across gradients, which then drive and spur evolution.
A broader perspective of eco/evo interactions.	The apparently less structured pelagic environment - but is it really?
Mentally stimlating discussions and practical tools that pertain to the biology, ecology and evolution of oceans.	1)the reticulate fashion of evolution, 2)its size as this relates to the current human uses that range from dilution tank to source of drinking water, and 3)far less explored and identified bio/geo/chemical diversity compared to the terrestrial environment

I would like to learn more ecological and environmentally relevant applications of research into evolution in the marine environment. In addition, finding people and projects through a research network which can synthesize techniques across different fields to come to novel conclusions is something I am especially interested in.	The ocean is a powerful system to study evolutionary patterns both in terms of ecosystem and organismal level processes, due to the rapidly changing nature of the environment. As the ocean possesses many complex ecosystems and interactions which are only starting to be fully realized, there are numerous study systems in which to frame biological questions about the mechanisms and patterns of evolutionary processes. As an example the inability of coral reefs to cope with increasing temperatures provide a perfect system to investigate both mechanisms of adaptation to increasingly human affected environments as well as the delicate inter-species evolutionary processes which can affect productivity on an eco-system scale, through their interactions with dinoflagellate symbionts. This is just one of a nearly limitless number of possible oceanic study systems in which to frame evolutionary questions demonstrating the utility of studying patterns of evolution in a rapidly changing ocean.
I would like to learn more about evolutionary ecology and about my colleague's interests and activities.	I apologize in advance for this nit-picky and nerdy answer but, I can't think of anything particularly unique about the ocean environment with respect to evolutionary processes. I am not even sure that there is such a thing as an evolutionary process. The most applicable definitions of "process" in Webster's dictionary are, a) "a natural phenomenon marked by gradual changes that lead toward a particular result" or b) "a series of actions or operations conducing to an end". Since evolution has neither direction nor predetermined results or ends, it seems to me that evolution is not a process but is instead an outcome, broadly generalizable as change, made inevitable by the passage of time and the second law of thermodynamics. Time and the laws thermodynamics apply to all environments, so in that respect the ocean is not unique.
connections and updates on current research	absence of obvious geological boundaries allowing freedom of gene flow; our poor understanding of what environmental factors matter to marine organisms and at what scales
Better understanding of evolutionary dynamics in marine systems	Dispersing larvae, multiple stressors.
I hope to gain a further understanding of the eco-evo feedback interactions in marine systems, as well as learn of ways forward in developing tools to determine adaptation mechanisms. In addition, it would be good to know what key variables from the various fields that could potentially be measured with ease (and by non-experts), that would aid in furthering the goal of understanding adaptation in a changing ocean.	I think a key interesting issue about ocean environments that complicates understanding evolutionary processes are the various reproductive modes that are employed by marine organisms. In particular, many organisms have complex life-stages where adult species reside in vastly different habitats to juvenile conspecifics.
To create links in a transversal research network, mixing ideas of oceanography, biology, ecology, genetics from both technical and theoretical points of view. This, in order to promote a joint and relevant reflection on questions and vagueness still present in research on marine ecosystems. As a doctoral student, this form of discussion and sharing is a very beneficial opportunity for my training course in research on topics related to marine environments.	Firstly, we know that the life emerged from oceans, so we expect to find a great diversity of evolutionary processes. Secondly, even if we think a priori that marine environment seems to be relatively stable and homogen, the reality is more complex and difficult to grasp. past 20 years of studies revealed that marine ecosystems are very complex in terms of physic environments, species and ecosystems. This complexity could be represented such as a mosaic where each piece is composed by an ecosystem, species, populations, individuals. Particularities of the marine environment includes complex connectivity (marine currents) between each pieces of the mosaic, and therefore what composes it... Moreover, the effects of recent stress inherent to the anthropic pressures on marine systems is still not well understood but force many species to adapt quickly.
Not really sure, but most likely opportunities for collaborative research proposals/projects in the future. Opportunities for my students to develop collaborations as well. Opportunities for joint outreach efforts.	Currents, waves, and tides... and other striking examples of how the physical realm of the ocean influences evolution of the organisms living there, particularly at the edges of the ocean where my group works.

I'd like to be part of a broader community focused on how animals are evolving in a changing marine environment. This opportunity would give me insight into the newest research, analytical techniques and training opportunities for our future scientific career.	The ocean has so many different environments within it, and our knowledge of many if these is quite scant. Life purportedly began in the oceans, therefore it must have been a catalyst for much of the evolution we see in the geological record and from our varied survey approaches in the present time. My specialism is in both polar and deep-sea environments, and we are still finding so many new species and environmental biotypes. What drives evolution in these environments is still not entirely understood. Also, how well connected are different types of animals that live at different depths and across huge spatial scales- these are still big questions in Pilar and deep-sea biology. Despite the ocean environment being similar, therefore expecting vast species ranges, this is not always the case. The ocean has many more and different barriers and boundaries which determine where species can be distributed. Also, the evolutionary relationships between organisms is little known in the oceans.
My hope for this RCN is that it will foster a high level of interaction between scientists across a broad range disciplines. In doing so, it will promote meaningful dialogue about the current state of the field and it's future direction and encourage lasting intra and interdisciplinary collaborations going forward.	I think unique biogeograhic processes, a broad representation of many taxonomic groups, and a wide range of life history and dispersal strategies make ocean environments unique and well suited to study evolutionary processes under a wide variety of systems and species.
Evolution of antibiotic synthesis / modeling / bioinformatics / experimental evolution of bacteria / microbial stress and env effect on bacterial evolution of antibiotics	Physical parameters - depth, ocean currents, pressure, temperature, salinity, etc Chemical parameters - chemical speciation, trace metals, siderophores. Biological parameters - competition, ecological niches, interactions, diversity, biodiversity hotspots
I would like to gain exposure to the methods that evolutionary biologists outside of the marine system use to understand adaptation and evolution.	In the marine environment, different ecosystems are heavily reliant on one another and the same applies to communities within an ecosystem. This inter-connectivity seems to be driving co-evolution between partners that experience the drive of evolution at different rates.
Reach out to network of people working on diverse marine systems and asking questions that may complement and be complemented by epigenetic approaches.	Diversity of environments, relevance of services, global climate change, selective pressures on populations at genetic and nongenetic levels.
better connection to others working on marine/evolution questions	not sure it is "unique" per se, but it has a lot of key features
I would like to see some microbiome / fungal studies performed across the network or inspire others to include these studies in their ongoing research.	The ocean is a unique stage for evolution for several reasons (i) it provides a strong selective pressure such that "returns to the sea" are rare and often result in convergent adaptation (ii) there are many organisms that have evolved symbiotic associations to deal with the unique constraints of the marine ecosystem (iii) there are very unique environments (e.g. hydrothermal vents) which further allow for unique speciation events to occur.
Being at a critical stage of my career, I would like to interact with fellow scientists, grow my network, be inspired for new research collaborations and be part of exciting scientific discoveries.	For one, much less is known about the marine environment in comparison to the terrestrial one. This makes it a unique playground for exploratory studies. It allows us to challenge many of the evolutionary paradigms that have been developed for terrestrial systems. Instead of focusing on the differences, I like to point out the similarities. Sessile marine invertebrates, for example, are equivalent to terrestrial plants: they don't move as adults, but their propagules are often the dispersing stage. Another intriguing property of marine systems is their diversity with regard to taxonomy, morphology, function etc. The diversity of character combinations lend itself to comparative studies, which reveals character correlations, which in turn can point us to possible reasons for evolutionary trajectories.
Collaborations mostly	The unique gradient of environmental factors, for example; Light in the sea is one of the major factors influencing corals, with changes in light being rapid along the depth gradient. Those changes can be a potential stress factor for coral-reef organisms and affect different aspects of the coral's physiology and other life-history traits.

Optimization of both oceanography, marine ecology and evolutionary biology is more than needed in order to develop specific tools to the marine environment (see question below). Statistical approaches should be developed jointly by oceanography and evolutionary biologist taking in consideration of the spatial challenges and the difficulty of defining fine-scale geographic structure in such large species range.	The Ocean plays vital role in sustaining the needs of society. A diverse array of marine organisms is used for food, medicine, cosmetics and a wealth of industrial applications. Best use of evolutionary knowledge is required to maintain the fundamental role of marine resources. Marine species are typically characterized by the absence of obvious barriers over large geographic distances. Thereby, the Ocean is a particular environment where gene flow is stronger than selection. However, dispersal may vary across a fragmented seascape due to patterns and gradient of environmental factors such as salinity, temperature and ocean currents. Many genetic summary statistics used to describe populations may be inappropriate for marine species with large population sizes, large species ranges, stochastic recruitment and asymmetrical gene flow. Statistical approaches for testing associations between seascape and genomic patterns are still maturing with no single approach able to capture all relevant considerations. Genomics approaches are now rapidly replacing traditional genetic markers and their application in understanding the evolutionary process in a marine context is more crucial than ever.
awesome readings, contacts, ideas, networking, inspiration	connectivity, short generation times at base of food web, environmental variability
To feel more connected to the evolutionary biology community. To raise the profile and promote how applying evolutionary theory to marine study systems can provide a better understanding of the drivers of structure in an environment with few barriers to movement. To learn more from colleagues working in this field.	The oft-cited uniqueness of the ocean environment is the low cost of movement for many marine species and the few physical barriers to gene flow. Something we tried to highlight in our recent review (Kelley et al. 2016 NRG). There are of course a myriad of different habitats within the marine environment and this combined with the relative ease of movement facilitates local adaptation to patchy habitats from a pool of standing variation in source populations. The oceans also provide an opportunity to investigate convergent evolution at a macroevolutionary scale, in terms of independent colonisations of the marine environment from the land. The genomes of marine mammals have provided the basis for an increasing number of studies to investigate the genomic basis of adaptation to the physiological challenges for organisms inhabiting our oceans.
Opportunity to work with researchers in other fields on unifying principles	Maintenance of variation despite connectivity
To have the point of view of oceanographers will be very beneficial as they probably have a better idea on the currents that play a major role in the dispersion of marine organisms. And this is very important for population genetists. I would also be very glad to have the opportunity to discuss with marine biologists and evolutionary biologists: discussions, debates are always important to have new ideas and in fine move forward in our research.	The most unique thing about the ocean is definitely its current and tides that makes the population genetics (and other) studies much more complicated. Are they adapted to disperse more or less? If they don't disperse far, can we observe inbreeding depression or maladaptation? All these questions have been adressed on terrestrial plants and animals sinces ages but we still have issues studying it on marine organisms. Although we find a diversity of life cycles, reproductive systems etc. which make them extremely interesting from an evolutionary perspective.
I'd like to develop local/marine systems and therefore would like to know the current research and major questions in marine systems.	
Keep up-to-date with latest research in field, and build appropriate collaborations.	Diverse range of flora and fauna with widely varying life history traits; quick rates of change in physical stressors (outpacing terrestrial systems); largely understudied relative to terrestrial environments.
I want to formulate a way for people to join my cause.	The ocean environment is particularly unique because of its ability to go hundreds of years without changing. There are a number of creatures in the ocean that are recorded to have little to no evolution evidence. Over the years, climate change has become an increasing problem and has affected oceanic ecosystems too rapidly for the environment to evolve. It may be possible to slow the changes enough for the environment to be able to adapt at a more reasonable pace.
A growing network and information on the lastest research	

As a PhD student, my research was primarily focused on invertebrate immunity and ecology. However now as a postdoc, I am turning to also focus more on how evolutionary processes contribute to and drive immune variation and its impacts on systems ecology. Therefore I hope that this RCN will be a great resource as I expand my research into more eco-evolutionary topics.	I think one of the most interesting aspects of the ocean environment currently is the rate at which environments are changing. Anthropogenic forces are causing large shifts in so many abiotic environmental factors, creating a fascinating (but ultimately awful and devastating) opportunity to study questions of rapid evolution and adaptation. Along those lines, I also think that many areas of the ocean, particularly in coastal areas, where unique evolutionary processes occur. Tidal and other coastal areas which are subject to extreme daily, seasonal, or annual fluctuations provide interesting contexts for studying the evolution of plasticity. Finally, I am fascinated by the abundance of symbiotic relationships in oceans. I think the stochastic nature of ocean environments, coupled with the importance of mutualistic relationships, provides an excellent system to study questions of co-evolution in the face of a changing environment.
	Sea water is about 800 times more dense than air, making water current very important for multiple evolutionary aspects such as larval transport. Water pressure, especially in deep sea, also influences evolutionally processes. Additionally, ocean's high heat capacity (1000 times higher than atmosphere) as well as absorption and dissolution of gases and organic/inorganic materials also affect ecology and evolution.
I am hoping to meet folks thinking about the implications of rising sea levels on the ecological and evolutionary interactions between freshwater and saltwater animals as salt water intrudes on fresh water. I also teach ichthyology and lots of students are interested in the implications of evolution for fisheries.	I'm an evolutionary biologist who studies fish in both fresh and saltwater systems. I also teach ichthyology. What I teach my students is that there are 3 unique features of evolution in the ocean. First, there is usually higher gene flow in ocean systems. Comparisons of Fst values between saltwater and freshwater fish systems indicates that Fst is about 3X lower in ocean fish compared to freshwater fish. I interpret this as evidence for high gene flow in the ocean. Second, some of the fishes with the fastest generation times come from freshwater systems with high seasonality. African killifishes can reach adulthood in ~2 months. To the best of my knowledge, there are no oceanic fishes with this fast of a generation time. This indicates to me that seasonality and fluctuations in environmental conditions can potentially be more pronounced in freshwater systems (particularly in temperate regions) than in saltwater systems. Third, the ocean is a big place. When I show videos of these rare fish where we have one video of a lone individual that was caught by a submersible, I often wonder how these fish find one another. The simple act of finding a conspecific can be difficult for some organisms.
I am deeply interested in how human activities have altered ecological function of marine ecosystems. I have an in-depth and growing understanding of the biogeochemical response, but am eager to help link this to a larger understanding of how these biogeochemical changes impact organisms in both the short and long-term. I would like to apply my expertise in new ways and work with collaborators passionate about the marine environment.	My bias here is to the marine environment in coastal areas. With that in mind, I think the coastal ocean is an interesting area to study evolutionary processes because it is a place of rapid change and diverse environmental conditions across short temporal and spatial scales. Organisms are exposed to a variety of salinities, pH, temperature, nutrients, physical conditions, etc. – and they have adapted to these variable conditions. On top of this, human activities are causing many of these variables to fluctuate at higher frequencies and are changing the duration and magnitude of deleterious events such as low oxygen. I think this allows us to use marine ecosystems as a natural laboratories to test evolutionary processes.
To develop a collaborative research network, interacting with colleagues and students in projects at global scale based on common research questions, testing general eco-evo hypothesis and moving forward the field to new and exciting research directions with the collaboration/support of the RCN. Through this global RCN, I would like to improve our capacity for knowledge exchange between scientists/academia and stakeholders - Governments.	Oceans are and have been the main regulator of the climate, controlling most of the bio-chemical cycles on Earth, and shaping the evolutionary dynamics of biodiversity from Poles to Tropics. Mass extinction events in the past, due to the rise in CO_2, temperature and the decrease of ocean's pH, have shaped the evolution and diversification of marine species. How will these rapid environmental changes influence the ecology and evolution of marine organisms in the future?. Oceans are very dynamic systems and our empirical evidences of micro-evolutionary responses (i.e., genetic) to climate change in marine species are scarce, mainly because most of the studies are purely phenotypic, and therefore, unable to separate plastic responses from genetic responses.

A better understanding of the evolutionary implications of a changing ocean	High dispersal potential for taxa with complex life stages, often accompanied by appreciable fecundity and substantial genetic variation; strong spatially and temporally varying selection pressure operating on such variation; coupling between potential stressors (e.g., acidification, low nutrients, hypoxia, limited food) through one principal driver of oceanography
I'm interested in interacting with a new set of researchers and learning about how marine systems will respond to future climate conditions. I'm particularly interested in how plasticity in physiology and behavior to temperature, pH, and DO will either constrain or facilitate adaptive evolution in the future.	The variation in population genetic structure and gene flow among species and the potential to exhibit adaptive evolutionary responses over large vs. small spatial scales.
Apply my thinking to new study systems ad interact with a new group of people who share similar research interests but work in different systems.	The scale at which environmental variation occurs vs the scale at which populations are structured through gene flow in sessile vs free living taxa.
To provide platforms for sharing data between scientists To provide platforms for standardizing ecological study methods	I thins the term "climax condition" is very complicated to be defined in marine ecosystems. In this case, scientist should firstly develop a simple applicable approach for determining the term. Then, the course of adaptation to ocean change can easily be monitored
I'm interested in developing a better understanding of how evolutionary processes play out in marine systems. I would like to apply this understanding in several ways: 1) develop course materials for applied evolutionary biology and global change biology, 2) identify crucial linkages between ecology, evolution, anthropogenic change, and human interests, 3) promote evolutionary thinking for conservation management of marine resources, and 4) expand eco-evolutionary perspective to marine systems.	That's a good question. I really don't know. This sounds like a question that would need to be addressed with synthesis. I can imagine evolutionary processes in oceans might differ in some respects: low spatiotemporal variability in selection regime, high rates and extents of gene flow, low rates of extinction, and high rates of speciation. However, these differences are not qualitative, and the difference between oceans and other systems would have to exist along a multivariate gradient. That said, one attribute of the ocean that might make it different from terrestrial systems is that the dominant vertebrate taxa – fish – exhibit high speciation rates and high rates of hybridization and introgression. How anthropogenic change in the ocean might foster heterospecific reproduction and/or favor hybrid offspring viability might be interesting to consider.
I am hoping to deepen my thinking about evolution under climate change. I'm especially interested in applying some of my research on disease-induced soft selection in terrestrial animals to marine systems. In my current postdoc, I am mostly asking ecological questions and involvement in this RCN will allow me to continue to be involved in the evolutionary literature.	Above all, I think that the connectivity of the ocean shapes how evolutionary processes play out. I'm very interested in diseases as a selective forces and especially in how often the signatures of this selection are more subtle (i.e. not hard selection) than we expect them to be. This is especially true in marine ecosystems. In addition, I think that the impacts of climate change on the ocean are in many ways more acute than on land, which creates different evolutionary pressures and potential. Finally, the abundance and fluidity of microbes in the marine environment means that microbes have more potential for shaping host evolution and plasticity in the face of climate change.
Empirical systems/results relevant to or validating evolutionary models	
Networking with others with a similar research focus	The marine environment is unique because it is responsible for a highly diverse class of vertebrates (fish). The volume and inaccessibility of this environment means much of this diversity remains poorly understood.
Understanding the evolutionary consequences 1) of changing environmental conditions, and 2) on different conservation approaches, especially related to fishing (or fishing moratoria)	Relative stability related to temperatures, implications of changing conditions such as acidification, implications of changing environmental conditions on larval health and it implications on metapopulations
Collaborate with other like-minded researchers studying ocean systems dynamics.	My work focuses on understanding how small cryptobenthic reef fishes adapt to changes in coral ecosystems, and how resilient they are to the drastic changes their micro-habitats are experiencing. Comparing this cryptobenthic fish communities at different space and temporal scales my bring some light into how coral ecosystems cope as a whole with the changing ocean dynamics we are experiencing.
A more rounded knowledge on evolution, collaborations	

Network with other evolutionary and marine biologists, be part of the conversation of how to monitor the change in our oceans that is happening, keep abreast of potential funding opportunities and potential collaborations.	The ocean contains multiple habitats for observiing unqie evolutionary processes. For example: Sediments in oligotrophic gyres are a very unique 'slow growth' ocean environment where microbial cell replication rates may be 100- 10000 years and which some microbial ecologists speculate evolution is not happening at all. This environment is potentially only rivaled only by >10 million year old permafrost. Another example are hydrothermal vents, which have dramatic gradients of temperature, nutrients and electron donors and acceptors, as well as relatively large microbial populations to drive evolutionary processes.
After several years of working as a government scientist, I returned to academia as a postdoc. Ultimately, I would like to refocus my research interests back towards marine evolutionary ecology and apply genetic tools towards ecosystem-based fisheries management and ecosystem restoration. For example, how can population genetics inform fisheries conservation and management efforts? And how can genetic patterns of larval recruitment inform coral and oyster reef restoration efforts?	The ocean is extremely heterogeneous and dynamic in ways that we do not fully understand and this seascape has the potential to influence patterns of genetic diversity within and between populations. As an example of the complexity that arises from the marine environment, consider the life history of marine organisms that are sessile as adults (e.g., corals, oysters). For these organisms, site-selection during the dispersal (i.e., larval) stage is crucial to their ultimate survival as adults. Site-selection behavior has been shown to be heritable and exhibit intra-specific variation, and thus, has the potential for natural selection. Yet the array of environmental cues that influence site-selection is extremely diverse, including depth, temperature, light, chemical cues, and even sounds. Patterns of larval site-selection must then be integrated with how the environment also influences patterns of recruitment, growth, and mortality. Ultimately, teasing apart these multiple processes and environmental drivers is important for understanding how life in the sea evolves and makes the ocean a challenging yet exciting environment for studying evolutionary processes.
I am interested in reading relevant papers and being up to date with current research in the field. I am excited to see the evolutionary biologists perspective in marine ecosystems, specifically in an ecology focused view.	The ocean environment is not only vast and ancient, but it has a connectivity that can not be found on land, which has been the basis of most evolutionary concepts. I believe we can learn much more about evolution by studying the ocean environment with its connectivity to not only similar ecosystems, but the utilization of multiple ecosystems throughout many marine animals life history and development. I think there is a lot that needs to be uncovered in our understanding of the most basic evolutionary processes and current interactions on spacial and temporal scales. The ocean has so many opportunities to bring scientists together from ALL fields of work, engineering, evolutionary, geology, ecology, social science, environmental preservation and conservation, developmental biology, fluid dynamics, chemistry, and many more. I believe we will only truly begin to see the full picture of evolutionary processes in the ocean when we have established a consortium of scientists from many fields.
I would like to make connections with evolutionary biologists and spread the word about the new approaches to sampling the ocean. I think these new, complex datasets generated from these systems have a lot of potential application to general questions in evolution and ecology, and I would love to talk to a larger group about some of these applications/questions that are sometimes not of much interest to oceanographers.	The ocean environment is interesting from an evolutionary prospective because new sampling technology is dramatically improving our ability to describe the physical and biological conditions, but we have little understanding of what it means, especially for longer time scale processes relevant to climate change. Before these improved sampling techniques, we thought of the planktonic community as a mix of multiple groups competing for similar resources driven predominantly by the ocean currents. New sampling technology, such as imaging, is revealing that these planktonic communities are highly structured in time and space. The ecological meaning of this structure is an ongoing question, but to understand what it means for the future oceans, we need to think about the biological interactions on longer time scales. Because so many different species interact within the plankton, and slight changes in planktonic mortality rates impact population dynamics for many species, we need to understand what selective pressures favor certain groups over others in order to forecast long-term changes in the ocean.
Building a network/collaborators	multi-stressors such as temperature, pH, etc..

We now have the capacity to understand at the deepest mechansitic levels responses to variable environments. I am hoping to learn more about the state of the art, and where diverse marine scientists think it is going, and how to address the inevitable trade-offs between depth of understanding, breadth of understanding and our ability to generalize and predict.	Geerat Vermeij, Peter Wainwright, and I have written a number of papers over the last decade, falling in the footsteps of Richard Strathmann's landmark paper in 1990. These papers, and much of my current research, explore exactly this question, beginning with analyzing the impacts of the physical differences between air and water on ecological and evolutionary processes and patterns in terrestrial versus marine realms of life. This project has explored questions ranging from life-history evolution, dispersal, gene flow, communication, sexual and natural selection and speciation, to patterns of biodiversity across the entire Phaenerozoic. Most recently, we have explored how the physical differences between air and water may influence population density, biogeography, and the capacity for populations and species to persist when rare, will affect responses to human-induced rapid environmental change.
I would like to connect with folks interested in an interdisciplinary approach to changing marine conditions.	Humans have a huge impact on the marine environment, and yet, unlike terrestrial systems, most humans cannot easily access the ocean nor see the effects they are having. Ecological and evolutionary processes will occur, nonetheless.
To find out about interesting problems in marine genomics	High gene flow!
I am excited to expand my collaborative network by working with scientists from different disciplines. ECS-RCN represents a unique opportunity to participate in a diverse working group to synthesize the current state of knowledge & identify research priorities across multiple fields. I am interested in questions related to adaptation & plasticity to understand & predict population responses to environmental change. I also hope to help foster diversity & inclusion across multiple disciplines.	Foundation species play a pivotal role in many coastal systems. Consideration of the spatial scale of adaptive divergence and the abiotic and biotic factors underlying these patterns in foundation species may improve our ability to predict evolutionary responses of diverse species under changing environmental conditions. In particular, there may be unique opportunities to explore the role of genetic and epigenetic diversity within foundation species, and the potential for eco-evolutionary feedbacks in these systems. In addition, given the variety of dispersal strategies that marine organisms use, there is tremendous potential to examine the interplay of physical and biological processes with life histories to better predict whether adaptation, plasticity, or both will play an important role in the evolutionary responses of diverse marine species to changing environments. It is also interesting to think about how the relative importance of these evolutionary processes varies across different spatial scales in the sea.
greater professional connectivity, networking, impact	large effective population sizes providing relatively efficient natural selection relative to drift, but also (in many cases) combined with broad dispersal across dramatic habitat heterogeneities. Also, extreme phylum-level biodiversity and vast resource base.
I would love to network and meet new scientists, learn about their research, and become more integrated with the scientific community as a scientist and researcher. I'd love to learn more about what's hot in marine science and how I can apply that to my research/future research. I'd also like to become more familiar with "sci comm" and be able to use it to help communicate science with others.	It's unique because of the idea that this environment will continue to change, even when anthropogenic influences to climate change cease. We're currently going through such a drastic and unfortunate change in our ocean environment that it's so important to document those changes in all kinds of organisms, as well as how those environments are changing.
We are seeing increasing evidence of longer and more intense marine heatwaves affecting coral reef habitats worldwide. We have evidence of localised acclimatisation to repeated/recurring heat stress. Is there an adaptive response to these events?	Coral reefs are the ideal theatre to determine the evolutionary game. Coral reefs, particularly isolated and remote atolls are naturally patchy and largely self-sustaining so they act as isolated experiments in an ocean that is arguably complex but much less so than terrestrial ecosystems.
I would like to connect with others working on marine environments and environmental change, and see how these ideas and perspectives link up with my research on marine parasites, hosts, coevolutionary processes and how these are modified by environmental change.	The marine environment provides a wealth of organismal diversity that can support complex and varied host-parasite interactions. For example, life in rockpools may be very different for a parasite trying to find its next host compared to a species specialising on pelagic species. The diversity of organisms, habitat types, dispersal modes and connectivity is unique and very poorly investigated in marine environments.
no time to develop a long answer, but I have been wanting to measure the intensity of natural selection by disease in both our starfish and eelgrass systems	no time for a long answer, what stands out is how poorly short term evolutionary change is documented and how intense the selection now is with warming adn disease related mass mortality

I hope to build connections with other evolutionary ecologists wrestling with these questions; I also hope to build my own skill set around genomic techniques to understand population-level processes.	I am not entirely convinced that the ocean environment is such a unique evolutionary stage. However, it is true that many marine species show spatial scales of dispersal potential and gene flow that are considerably larger than the grain size of environmental variation, and this may constrain the type of adaptive responses we typically see.
news and ideas	Water as a conduit for broad dispersal, not just of larvae, but of adults and symbionts as well.
Integration of environmental monitoring/modeling with studies of rapid evolution and local adaptation	Scales at which ecological and evolutionary processes occur likely have wide variability, yet this is largely ignored.
I am really interested in adaptation and evolution, and this RCN would provide me an outlet for discussing evolutionary questions on a more regular basis. I am really interested in the mathematical methods of adaptive dynamics. I hope that participating in this RCN will help me prepare proposals and postdoctoral fellowship applications.	The unique part about the ocean environment is how connected it all is, and yet how variability can exist on a microscale. Organisms can themselves be dispersed thousands of kilometers, and can be exposed to chemicals and sounds coming from hundreds of kilometers away. On the other hand, animals react on a 1-meter scale in response to habitat structure and prey fields, and microbial processes happen on a micrometer scale. The energetics of moving around in three dimensions in the ocean environment allows for patterns of selection and gene flow that are distinct from terrestrial ecosystems.
An expanded network of collaborators and colleagues. Recruit graduate students and postdocs. Ideas for future projects and proposals.	For deep-sea, the time scales in which evolutionary processes take place are many times slower than those on land. oceans are a much older and vastly larger environment. Lack of hard barriers. Difficult to study!
RCN sounds like a great group to discuss exciting topics in evolutionary ecology and marine systems. Since I am an early-career scientist, I think it would also further my professional network and would be a great incubator for exciting projects.	The ocean is changing rapidly and species are on the move. I think the effects of climate change on marine species is an exciting and open question. Another thing I find really fascinating about the ocean is the high potential for gene flow. How does this interact with selection to result in local adaptation or maladaptation, and what are the evolutionary consequences for future genetic adaptation as environmental conditions change?
As an early career scientist, I am always looking for new ideas and new collaboration opportunities.	The strong selection pressure at the larval or propagule phase; strong environmental gradients that are relatively stable, allowing for predictable gradients for refuges or adaptation; climate change impacts that are unique to marine systems (i.e. OA and deoxygenation).
New connections/shared resources/collaborative perspectives	The polar seas present long-term, replicated selective pressure for cold adaptation that has led to the evolution of novel proteins. That's fascinating and there is a lot to uncover.
I am interested in workshops and conferences where I can both network with others and hear about research on evolutionary questions in marine systems.	
I hope to be involved in stimulation discussions in an open community, which may lead to collaborations. One interest is eg also on discussing how to standardise population genomic approaches.	Gene flow is probably the mechanism that is most different, with more directional dispersal, and generally low dispersal distances but with -important -rare long distance dispersal. This has an impact on "evolutionary processes" such as demographics, adaptation, differentiation, plasticity...
more interactions with scientists working in this field, better idea of important research areas in this field	high potential for dispersal of offspring. May affect gene flow, population structure, and life history. These attributes may influence evolutionary processes in the sea
I would like to better understand how to test for evolutionary signatures of adaptation across species biogeographic ranges. I would also like to network with other researchers using novel physiological and genomic techniques to identify local adaptation in non-model species.	I believe one of the major aspects that makes the ocean a unique environment for evolutionary processes is the potential for progeny to move large distances leading to high potential for gene flow between populations.
Opportunities for collaboration and greater insight into current areas of interest for my fields of study	Under significant impacts of climate change; evolution plays out in large population size context; role of migration and its effects on trait evolution is difficult to assess; harbors high diversity of phylogenetic lineages

I am hoping to gain a greater understanding of the genomics and metagenomic analyses that have been conducted in marine systems. My work has primarily focused on phenotypic variation, so I look forward to learning more about the genetics and G x E interactions that influence population structure.	The ocean can foster high gene flow that may hinder population differentiation from occurring, making adaptive radiations less common than in terrestrial systems. Yet, the marine system is not a homogenizing pool. The ocean supports some of the greatest ranges of body size and a such a wide range of environmental conditions that pockets of diversification can arise (e.g., hydrothermal vents versus kelp forests). Diadromous organisms also have an oceanic larval phase, which has been one hypothesis regarding how freshwater fish systems evolve on oceanic islands. The oceanic larval phase could serve as an important source for populating existing or new adult habitats.
I would like to interact with other evolutionary biologists and genome scientists to build a stronger theoretical and analytical foundation for studies of evolutionary processes in marine systems.	1) The adult and larval habitat are decoupled in many marine species. Larval mortality (and hence the potential for selection) is often incredibly high. To the extent that adult and larval phenotypes are correlated, adult phenotypes that we interpret as adaptations may sometimes just be a correlated outcome of selection on larval phenotypes. Mobile larvae can also lead to very different scales of genetic connectivity among habitats. 2) The most common modes of reproduction differ between marine and terrestrial environments. Marine habitats lack pollinators, which play a huge role in speciation and diversification on land. Instead, the dominant modes of reproduction in the sea involve broadcasting of one or both gametes. These modes of reproduction elevate the relative importance of gamete recognition proteins and reproductive timing in the evolution of reproductive isolation in the sea. 3) Differences in the physical properties of water vs. air lead to (among other things) differences in the scale of thermal heterogeneity, differences in fluid dynamics, differences in the relative importance of oxygen availability, and differences in the movement of light, sound and chemical cues in marine vs. terrestrial habitats. All of these have huge consequences for trait evolution.
Networking, different points of view, out-of-system expertise and approaches to address similar questions.	Coral reef ecosystems are the most diverse and one of the most productive places on the planet. This is solely because of a symbiotic interaction between single-celled alga and the coral itself. These symbioses are diverse, highly specialized, and unfortunately highly sensitive to changing environmental conditions. The breakdown of these interactions are on the forefront of climate change ecology, evolution, and physiology. Understanding organismal responses, phenotypic plasticity, and host-symbiont associations in response to a warming planet is essential to understanding how these important ecosystems will be transformed over the next couple decades. This is an important time to study these symbiotic interactions and learn about the capacity of adaptation and acclimatization these organisms may have to a rapidly changing environment.
Working with an international team to address both evolutionary and ecological questions about marine systems, utilising my seagrass knowledge. Address questions about the possible future for our exceptional diversity and abundance of marine life and how to influence that future.	The ocean environment is the origin of life on our plant and its diversity. For me, my interests are about how photosynthetic organisms evolved to dominate the nearshore shallow continental shelves of the ocean and what present anthropogenic impacts will influence their dominance and diversity
connections to marine biologists, starting collaborations	For me the ocean is fascinating from the perspective of population dynamics-- one can imagine populations that occur at enormous sizes largely free from population structure. Such populations would be an incredible canvas for natural selection to operate on.
Learn from others, networking opportunities	Population sizes are large, connectivity and dispersal are different
new ideas, potential collaborations	The potential for global dispersal. For microbes, external temporal forcing on the order of multiple generations each year.

I would like to become more competent and confident in discussing and incorporating techniques to better understand the evolution of coral thermal tolerance under climate change. Also, I would like to network with professionals in the field of marine ecology and evolution for future research ideas and opportunities.	The abiotic and biotic conditions of the marine environment create such a complex mosaic of strong selective gradients along a variety of spatial scales. These gradients influence organismal responses and serve as selective agents for adaptive differentiation, despite planktonic dispersal and high gene flow. By coupling environmental factors with molecular data, researchers have a unique opportunity to understand the complexities of phenotypic plasticity and local adaptation that contribute to a species' distribution and response to environmental change.
Broaden knowledge on marine science, evolution, and marine science evolution	
The opportunity to 1) network with scientists with similar research interests; 2) gain professional development through the readings and workshops; 3) be a part of the emerging conversations about how to study evolution in the sea	Marine systems are very context dependent. Understanding how evolutionary processes play out would require extensive knowledge on 1) the natural history unique to the system (e.g., reproductive and dispersal modes, genetic diversity, potential selective agents, etc); 2) the inherently dynamic nature of the abiotic and biotic environment of the system; 3) how selective agents in the system may vary across spatio-temporal scales.
keep up with where the field is going, learn about exciting research	Fewer dispersal barriers, strong vertical heterogeneity, large population sizes
I would like to get more information on current literature or research beyond corals	The ocean environment provides a unique method for dispersing offspring (larval pelagic dispersal), which many species from diverse phyla carry out. This means that dispersive species from fish to invertebrates in the ocean have larval offspring that can travel long distances due to currents, presenting unique opportunities for studies of population connectivity and gene flow. Additionally, these larvae have to tolerate predation in the water column, and learn how to settle or metamorphose in the right place or be able to deal with unideal conditions during settlement/metamorphosis. This leads to many different life stages & habitats for selection to occur on broadly dispersing species, especially with larvae that are sessile in adult forms that settle on the benthic habitat & don't have a chance to move if conditions aren't ideal.
I would like to contribute to the collective effort to research phenotypic plasticity across coral species and acclimatization vs. adaptation to the changing ocean environment. I have no background in genetics, but my work could easily include this if I had access to genetic techniques through collaboration.	The connectivity of organisms that live in the marine environment and how it is driven by ocean currents, life history, and habitat heterogeneity makes understanding evolutionary processes a fascinating and complex research question. The heterogeneity in response to environmental stress (e.g., two con-specific corals living side-by-side, one bleached, one not) is encouraging and makes me believe there is enough genetic diversity evident for most coral species to adapt to wildly changing environments. The diurnal variability in the nearshore environment also support this notion. We need to understand the genetic heritability of these coping traits.
I am hoping to become more involved with a multidisciplinary approach necessitated by the realities of a changing climate. Evolutionary heuristics can be valuable, but applying evolutionary realities to multifaceted dynamics in the ocean environment is a challenge that is worth confronting. I believe collaboration across disciplines is imperative in order to meet this challenge head on, and the RCN seems a great opportunity to facilitate this.	The classic “marine speciation paradox” highlights the difficulties applying a traditional view of how species originate (a strict physical species barrier concept) to an environment devoid of many of the barriers biologists have traditionally recognized. Not only are many of the forces at play in shaping evolution in the ocean difficult to visualize, they can sometimes be difficult to conceptualize. Whereas people can easily see that a steep cliff or a gaping chasm is resulting in isolated and unique evolutionary lineages to be maintained on either side, small but measurable changes in temperature and pCO2 levels along an area that experiences seasonal upwellings and retroflections can be more difficult to conceptualize as an equally potent driving force of evolutionary change. Actually understanding and conceptualizing the driving forces of evolutionary change in the ocean requires recognition that the ocean environment is dynamic and complex in many more ways than we are used to thinking about or may even be aware of, to a large extent because it is so different from the terrestrial environment we occupy.
Increased interactions with other researchers working on evolution in the oceans.	Understanding evolution in a dynamic, fluid environment requires combining physical dynamics with evolutionary selection.

I would like the opportunity to meet people at all career stages within marine evolutionary ecology to discuss the current state of the field, as well as open areas for future research and investigation (and possible collaborations).	I think the ocean environment is largely understudied, considering how vast it is and how some communities are largely uncharacterized due to how difficult they are to access. There is a large diversity of habitats and communities and infinite opportunity for research on evolutionary processes.
connect with other researchers in the field, achieve greater synthesis	Some oceanic environments have high connectivity that can lead to high gene flow that would mediate evolutionary responses to changing conditions. There are multiple interactive selective pressures, such as rising temperature, nutrient limitation, decreasing pH, etc. that alter the adaptive process. Different trophic levels have very different generation times that may lead to different rates of evolution and result in various mismatches and an imperfect coevolution.
As a technician and prospective grad student, I'm primarily looking for additional resources to find mentors, and exposure to related marine science disciplines and their respective outlets for communication (public outreach, education, industry or policy connections). Eventually I will hope to find colleagues willing to give feedback on project ideas, or possible future collaborators.	Our oceans contain incredible diversity at every scale identifiable: ecosystems, species, microflora, genes, etc., which lends itself to enormous potential for evolution and adaptations of organisms. Oceans' dynamism further magnifies the range of possible adaptations and connectivity of populations, or lack thereof. Human reliance on resources derived both directly and indirectly from ocean systems only intensifies my interest in these processes.
I think that I represent an example of someone who conducts about 95% of her research entirely on marine animals but without the "marine" part really ever coming to bear on the research. I work on fish and shrimp in a lab, in a controlled setting, or I work on many many species that are currently living in alcohol (in museum collections!). I want to learn how to link the functional, morphological, and evolutionary work I do back to the environment, habitats, and ecosystems in a meaningful way.	The ocean not only covers a huge area of a planet, but is deep. This sets up a very interesting 3-dimensional landscape that varies in important factors like temperature, nutrients, pressure, and light levels. Compared to lakes and streams, the ocean seems remarkably constant and continuous over geological time scales, although with the caveat that there are many "invisible barriers" such as currents that can change and divide the seas. This seems to set the stage for adaptation into habitats and niches that have no equivalent on land or in freshwater systems.
I am looking to gain an understanding in the fundamental research aims in both evolutionary biology and marine science. In particular I am curious if there are unique evolutionary dynamics that have structured the populations of symbiosis within marine environments, or if such dynamics are unified between terrestrial and marine systems. Networking and knowledge sharing from experts to students is also of keen interest to me.	Most striking in respect to evolution are the large areas that comprise the marine environment, and long history of organisms occupying such environs. As compared to terrestrial systems there is more geographical area as well as the aspect of depth. Are there greater opportunities for niche partitioning in marine environments due to depth stratification and long evolutionary times for most marine taxa? If so, do biological interactions (ecological relationships) have unique characters that are shared within the marine environment as opposed to the terrestrial, or are these relatively arbitrary divisions in an evolutionary context?
I would like to see the evolution community looking toward marine, rather than terrestrial, literature to learn about the newest exciting advances in evolutionary biology.	
As an already graduated student trying to find my passion, mostly a way to re-engage my scientific mind as well as collaborate with others and keep up to date with research	The diversity and connected-ness; everyday we are finding new species of deeper sea that are closely related to other epipelagic dwelling animals. Also being an environment that can be studied from areas heavily affected by humans to relatively pristine, a lot can be learned about adaptation to these environments. Obviously also being an environment hosting most of the diversity in the whole world, so much has yet to be discovered of how animals have diversified and adapted to better understand and manage the health of our oceans.

Collaborations, expanded horizons, attendance at workshops, learning new techniques and methods . . .	The oceans cover over 70 percent of the Earth's surface and contain 97 percent of the planet's water, yet they remain largely unexplored. For example, one of the most interesting places globally to study evolution is the coral triangle, an area encompassing 5.7 million square kilometers of ocean waters, situated in the Indo West Pacific (IWP). Together with the encompassing seas, it offers opportunities for scientists to focus on the evolution of marine endemics, reconstructing the sequence of events that led to extensive speciation. To tackle this topic, I have studied phylogenetics of cuttlefishes, shallow water molluscs. However, as stated in the first sentence, oceans are vast, and exhibit tons of variability in biotic and abiotic factors which could potentially drive evolutionary processes. I am studying evolution of vision and developmental plasticity of it in the deep-sea fishes from the Sargasso Sea, which larvae and adults live at different depth and are thus subjected to different light conditions. Although super interesting and highly applicable, oceans are vast and a highly collaborative scientific effort is needed in order to understand sciences of evolution, marine biology and oceanography.
I want to gain an evolutionary perspective on my research and greater context for my work. Much of my current research has focused on the physical mechanisms behind species range boundaries, but very little on the biological side of things.	Im my view, the physics of the atmospheric medium (water in the ocean, air on land) is the largest difference between terrestrial and marine environments, and what makes the marine environment unique. The physics of ocean water governs everything from sinking speed and pressure at depth to chemical reactions within the cells of organisms, all of which can have major impacts on evolutionary pathways, and it those physics are very different from what we are used to from our terrestrial perspective.
I would like a greater understanding of evolutionary principles and statistical methods. I would like insight on experimental design for questions of adaptation and speciation. Generally I would like to hear other perspectives (from other size class organisms) of how the oceanic environment shapes the diversity, physiological plasticity and biogeography of its species.	In the open ocean population size and connectivity is vastly different than in terrestrial systems. Boundaries are fluid and every genetic variation that can exist DOES exist. There is greater phylogenetic diversity. At the same time the range of abiotic parameters that shape biodiversity/biogeography is different (and I would argue both larger and more extreme) than on land.
	Ocean environment is still quite wild environment. It is not as developed and occupied by humans as terrestrial environments. Marine organisms are not domesticated as land animals are, and the most of the ocean space is not "cultivated" as the land is. So evolutionary processes can happen quite in their original ways. It's one of the remaining spaces that people have not fully conquered yet.
I would like to set clear common goals of this group, organise working groups, and take the most advantage of the wide and interdisciplinary expertise to advance in study the adaptation to ocean change.	The organisms in the marine environment need to adapt to frequent extreme and changing conditions, such as differences in light, pressure, temperature, wave exposure, currents, extreme climate events and climate change. It is important to understand the capacity of the marine organisms for adapting and evolve in this changing ocean.
I hope to better integrate my lab's research with others - educate each other, share ideas, brainstorm problems, write reviews, collaborate on new projects. Maybe even join each other's fieldwork!	Huge fecundity and great dispersal distances of the majority of large marine organisms (with planktonic larvae). Selection leading to adaptation must work quite differently when kids number in millions and physically cannot stay at home. Adaptation and speciation in planktonic organisms, with no physical barriers throughout their whole life cycle, is an even more mind-boggling problem. On another hand, dispersal routes are very well-predictable (currents), which gives confidence to modeling - at least something is easier than on land.
Research ideas, opportunities	The range of connectivities, in a population genetic sense, amongst different taxa is noteworthy, and the fact that one finds taxa with low levels of migration despite a contiguous environment. Evolution in exploited/harvested systems is also in interesting topic, and there are many opportunities for such work in marine systems. I have an interest in freshwater-marine linkages.

I would like to work with other like-minded scientists and also learn from biologists who have worked before on anthropogenic effects and the evolution of traits in response to them.	Humans are impacting the ocean environment perhaps more than any other environment on Earth, and animals may evolve in adaptive and maladaptive ways in response to these impacts. Further, sensory ecology is so much more rich and complicated in the ocean than on land!
Learn from others about ways to influence management decisions that are relatively immediate and effective	Photic zones is stratified in a gradient that is relatively well understood. How light affects marine life/food webs can be studied across many taxa using similar approaches.
Networking, and exchange of ideas and knowledge.	Our planet is 70% ocean on its surface alone, and evolution has been taking place there for a lot longer that on land.
I hope to find synergistic avenues of research in a network of folks that are tackling the big questions posed by the rapidly changing biological and physical conditions at the human/marine interface. I would also be very excited to learn from and discuss new work with people that are motivated by these same questions.	This answer would require a dissertation (or two) to do justice! I think that this is why the this topic is so exciting. We've learned a lot about evolution from marine systems. But whether there is a fundamental difference from terrestrial/FW (or if there is a definable set of rules about life in salty liquid media) has a lot of unknowns to consider. And now that humans are having a profound effect there, it is even more pressing to explore. Differences: Connectivity, habitat heterogeneity, much older, more stable/predictable on low timescales, ect. Similarities: The both have a lot of really cool fish to study.
I'm an evolutionary biologist and am fascinated by marine environments. I would like to stay engaged with theoretical and empirical work in this field, with the hope to integrate ideas with my own research and expand possibilities for my future work. I use population genetics models and ecological theory to understand questions about human behaviour, and would therefore benefit greatly from experiencing this theory in practice related to another one of my passions - marine environments.	There is potential for great connectivity, i.e. dispersal, which is then tightly controlled by ecological forces of temperature, wind, which has effects on the temporal and spatial dynamics of population structure and species diversity. The speed at which ocean environments are changing, mainly due to human impacts, mean that there is potential to study local adaptation and evolutionary processes.
Connections with evolutionary biologists focused on adaptation	Dominance by microbes! (This is also true in many terrestrial systems, but somewhat less overtly acknowledged.) Because microbes have large population sizes, short generation times, and rapid growth rates, they can mount relatively more rapid evolutionary responses to changing ocean conditions.
I'd like to see discussions regarding seascapes and how they might changes do to climate change. And how to fluctuating seascapes change spatiotemporal variation in larval dispersal, habitat choice, and post-settlement processes?	That selections pressures change through out ontogeny but they are extremely difficult to detect and quantify in the marine environment compared to the terrestrial environment. It makes it difficult to ask how selection can override the homogenizing effects of larval dispersal or is larval dispersal much more restricted than we know...larval behavior, eddies, etc.?
Perspective, discussions, potential collaborators, resources and information on funding and grants	High connectivity, mega-diversity, unknown diversity, cryptic diversity, resources management, underdeveloped genomic resources
Collaboration toward advancing our understanding of understanding the ecological and evolutionary responses of marine species with diverse life histories on populations, communities and ecosystems to climate change resulting in publications and outreach with the goal of shaping education and policy.	Larval dispersal affecting plasticity and adaptation across extensive species ranges in a dynamic ocean
Pushing me to further think about evolutionary processes particularly evolution of phenotypic plasticity in marine systems.	Connections across the ocean through human mediated dispersal occurs through distinct vectors than on land (e.g. ships, flotsum, oyster movement) and these connections contribute to species encountering novel environments. Such novel environments can influence patterns of among population differentiation. Populations encountering novel environments can uncover hidden reaction norms or lead to local adaptation.

A network of people with similar interests with whom I can learn from and share my research with. I am in the early stages of my PhD and think I could draw great inspiration from this group moving forward.	The immense diversity of life forms; phyla, body plans, life history strategies, etc. is a unique asset. I am currently working with the fouling community where you can get wildly different organisms from distant evolutionary branches on a single settling tile. This diversity is an invaluable and unique tool to begin to understand evolutionary questions. Additionally, the human induced ecological changes that are affecting our planet also affect the ocean environment, often in unique ways. They are worth studying in their own right, but also allow us to gain further insight into how organisms are able to adapt to changing environments more generally.
Useful connections and a platform to exchange ideas/progress	Oceans, as well as freshwater environments that are connected to oceans, are experiencing drastic changes because of anthropogenic climate change and the organisms living in these aquatic systems are experiencing drastic changes in their environment. This is both an opportunity to study strong selection pressures happening right now, as well as an urgent target for conservation efforts. The latter is sure to be more successful the more we understand the eco-evolutionary dynamics within these environments.
More exposure to evolutionary view of species dynamics in complex systems.	Complex connectance patterns
Follow the latest on this topic and be informed on upcoming research or innovations.	It's (relative) resilience and ability to adapt to change.
Updates on interesting projects and publications	Although human pressures are increasing, I think that the ocean, compared to many terrestrial ecosystems, still offers great opportunities for understanding natural selection and evolution in the wild.
Learn more about topics highly relevant to the marine-evolution intersection; get a better overview of other work being done in the field; expand my network; meet potential collaborators	High gene flow potential; rapidly changing; large direct and indirect anthropogenic impacts; relatively unexplored; long history of exploitation; high biological diversity; environmental extremes
Excitement and an increased perspective about evolutionary dynamics in marine systems.	The seemingly large (horizontal) dispersal distances of many organisms, relative to scales of ecological relevant environmental heterogeneity, contrasted with often striking vertical segregation.
I am hoping that joining this group will help me to stay updated with the field, continue and establish new collaborations with evolutionary ecologists and have fun.	The rapid change in their environmental conditions due to climate change and the great diversity in reproductive strategies of marine organisms.
Opportunities for collaboration; new perspectives on eco-evolutionary dynamics; new ideas to apply to evolutionary management and conservation	Large spatial scale; potential for high gene flow; spatial heterogeneity in selection
Converstations new insights into how adaptation evolves quickly in the sea. Meeting a new cadre of marine evolutionary researchers.	Diversity. In deep evolutionary body plans, numbers of species, cryptic species with different ecological niches, size of populations, distance of gene flow, number of mosaic environments.
A collaboration with esteemed researchers to work in Indian coasts for species found in India and their evolutionary relationships. working under the diversity and cellular mechanisms at established laboratories for Porifera and Cnidarians.	As life evolved in water, all the Marine invertebrates one or more characteristic features of evolution. Knowing invertebrates better will help us understand the process of evolution better. the characteristics and physiology of many of these organisms are similar to one or the other physiological traits of higher organisms.

expand network of collaborations, inform community about changing seas, integrate more competencies in my (scientific) view of evolving seas	Making predictions about how environmental changes can affect life in oceans is more complex and requires a multidisciplinary tool kit of expertise. Several species are difficult to study in captivity and this makes scientific efforts more challenging. This also requires some common guidelines for a more compelling comparison among studies. Ocean contain a lower biomass than land environments but on a much larger scale and dispersal plays a pivoltal role making evolutionary studies at different geographic scale more complicated. And finally oceans are sentinel of climate change (think about poles and warming, sea level rise) and their evolution should be monitored constantly.
Better insights into rapid evolution in this era of fast global changes	The dispersal scales and time scales for gene mixing from microbes to whales
New collaborations, networking, learn from the researchers with different expertise, improve our Knowledge from the oceans and marine systems	Understand adaptations of marine organims to Acidification, symbiosis, environmental stress in several marine ecosystems
I'd like to learn more about how my training in terrestrial evolution and ecology may be applied to research questions in marine systems. As a biological technician and PhD student I have developed skills and experience in evolutionary and visual ecology in fresh water and terrestrial habitats. I am interested in expanding my research to marine spaces. Specifically I'd like to explore opportunities for collaboration and postdoctoral fellowships in this network.	In my PhD work I am primarily focused on quantifying floral pigments and their protective and attractive functions. The ocean environment is a particularly interesting place to examine the ecological function and fitness effects of intraspecific variation in color and pattern. Many marine organisms have evolved complex pigments and patterns to defend themselves from abiotic stress, attract mates, and warn potential predators, all in a dynamic visual environment.
Expanding my network (and the network of my students) with people interested in similar research topics. Getting nice reading suggestions, insights, ideas for future research.	Three dimensional space, dispersal barriers are less obvious, possibly more gradual.
The manipulative experiments allow us to follow adaptations and changes occurring due to tested impacts, which can be also used to understand and track changes in the field. I would like to have the opportunity to expand our network, interact with other groups and, if possible, organize joint efforts to contribute to the development of the integrated framework for studying adaptation to ocean change.	The ocean is being extremely challenged by different threats, that are moving fast and with no enough time for many species to recover. This may trigger different strategies of adaptation and countless opportunities to play around it in order to understand those paths.
Collaborations, new research ideas, and a newly invigorated research community around contemporary evolution in response to global change	I think this is a fascinating question! 1) large population sizes, 2) extensive gene flow across environmental gradients, 3) thermal environment that varies relatively little across time and space (leading to narrow thermal tolerances), 4) high standing genetic variation (product of 1 and 2)
A much more clear understanding of the experimental approaches needed to truly get at the idea of what limits plasticity and how do we assess capacity for adaptation in the light of epigenetic capacitors of phenotypic variation.	
more cross collaboration/perspective with/of non-marine evolutionary biologists	The wide variety of life-history strategies (e.g. fecundities, larval modes) employed by animals in the marine environment and the relative fluidity of dispersal barriers that permit potentially large-scale migration across environmental gradients each generation, result in complex interactions between mutation, drift, migration, and selection each generation. Observed patterns of diversity and adaptation in the ocean are often challenging to interpret and recently available genomic tools and statistical approaches may shed light on how these processes play out uniquely in the ocean.
Networking, collaboration, and training to inform research, teaching, mentoring and outreach.	Extraordinary connectivity. Dynamic biological, physical and chemical processes. Unique and complex trophic dynamics. Ancient and incredibly diverse groups of organisms.

I would like to find a safe platform to interact with experts in the fields of ocean sciences on current issues and common research interests. I would also hope to be able to expose the postgraduates I work with to evaluate critically important topics pertinent to their line of study, but also to afford them to take part in discussions on disciplines that are not the core of their research.	Currents are uniquely associated to oceans and influence many functions of life, by moving propagules, individuals, heat and nutrients. To add to this complexity, oxygen and temperature mediate metabolism and ensure the wellbeing of individuals and ecosystems. The current climate associated warming, hypoxia and changes in the structure of currents can aggressively shape the evolution of individuals and the persistence of populations. Short term evolutionary events are hence becoming current realities which influence the adaptation of organisms, modify the functionality of populations, alter the connectivity pathways, with overall impacts on the health state of the sea.
I would like to gain a better understanding of my field in general and also discover other scientific fields that allow me to approach questions from different perspectives. I would also like to meet and network with other scientists.	The ocean is a constantly changing environment that provides marine organisms with the opportunity to acclimatize and eventually adapt. Because we are seeing such rapids changes to many different ocean environments, there have been modifications in behavior and physiology that have occurred rapidly and we can track these modifications over time to see whether or not they persist in the environment.
I envision the RCN-ECS as a forum to exchange ideas, train students/faculty in novel genomic approaches and a place to bring scientists with different backgrounds together to build collaborative projects enhancing each other's research questions/systems. The network could be an excellent scenario to build rather large (tens of thousands of individuals) and multiyear projects run by the whole community and understand novel and temporal evolutionary dynamics not yet explored in marine populations	Contrary to land, many marine organisms engage in external fertilization and have planktonic larvae that disperse hundreds of kilometers, connecting populations across vast distances. The dynamics among populations in the sea differs from that on land in at least two ways: 1) populations sustain larger effective population sizes and 2) higher gene flow among populations. Larger populations take longer to drift mutations to fixation, slowing diversification yet larger populations promote the efficacy of selection. During adaptation it has been assume that gene flow would retard divergence and decrease mean fitness. However, gene flow, if not random, could in fact accelerate divergence and increased fitness as it would allow individuals to go from areas of low-fitness to areas where fitness is higher. This acceleration, albeit unexplored, should be common on marine systems given the higher gene flow. Ecological divergence in the sea seems a major process generating diversity thus understanding the effects of non-random and random gene flow in evolution is essential. In addition, gene flow if random, would expose genotypes to different habitats, suggesting that phenotypic plasticity is more common than on land and may fuel evolutionary divergence in the sea
improved network and research direction insights	Marines populations are one of the most valuable resources humans use with the least amount of information. For even highly commercial species (e.g. lobster, snapper) we have little information on population structure and unified management strategies. All of this sits within the context of global climate change and ocean acidification which we expect will have huge impacts on species productivity and ranges. Understanding the basis of response to environmental change is a core evolutionary question, but is also critical to managing our use of marine resources.
Connect with a broader range of marine evolution researchers, particularly in north America	The lack of obvious barriers to connectivity, but nevertheless finding there are barriers. The challenge of fish conservation when those fish are commercially/recreationally targeted (we want to preserve AND catch them). The effects of harvest on evolutionary processes. The uniqueness of some marine environments such as the brackish Baltic Sea
More background knowledge	Strongly asymmetric dispersal :-)
Further insight about how ocean processes may be driving evolution in diadromous species; learning, networking & collaborative opportunities.	Fewer physical barriers to gene flow; influence of different water bodies and ocean circulation patterns on population structure; vertical habitat structuring over a much greater height than in terrestrial environments; evolutionary processes in the deep benthos.

Largely, I'm looking to foster collaborations, especially with folks with differing expertise than my own. I believe that truly answering questions about evolution in an anthropogenically changing ocean requires an interdisciplinary approach, incorporating environmental toxicology, biogeochemistry, physical and chemical oceanography, and other non-evolutionary fields.	For many marine species, larval dispersal is the only means of maintaining genetic diversity among populations, and larvae are more sensitive than the adults to stressors, making them a conduit for environmental selection. Coastal ecosystems face a complex of stressors that span multiple temporal and spatial scales, from long-term global ocean change to localized episodes of coastal acidification, and larvae experience these multiple stressors simultaneously. Therefore, understanding how marine populations will evolve in response to environmental change requires investigating the synergistic impacts of multiple stressors across all life stages.
collaborative framework, evolutionary focused discussions,	physical heterogeneity and microhabitats, connectivity, location adaptation
Developing collaborations with marine biologists interested in using genomic data to answer questions about past evolutionary changes.	The ocean environment has an extremely rich abundance of diverse ecological niches to which different organisms have adapted over time. It therefore provides a great way to test evolutionary questions across species and populations within a species, using genomic data. In particular, one can try to infer how natural selection has operated in different marine species in both the distant and recent past, to bring about adaptive innovations as a consequence of both environmental changes and human interactions.
I want to network with researchers in this field and join a larger community that focuses on addressing questions of evolutionary process in the marine environment. We need new and novel approaches to address questions about local adaptation and rapid evolution to changes in the marine systems caused by global climate change and invasive species. I want to open dialogue about what the next steps and approaches are to address these questions in marine systems.	One of the exciting and challenging aspects of working in marine systems is how dynamic they are and how much potential there is for genetic exchange. That said, we find that often there is far more local adaptation than we would predict given the possibility of exchange. Global climate change will affect the oceans in significant ways and we can further understand the effects of rapid environmental change on species. Do they adapt, do they move, do they go extinct?
I look forward to meeting new colleagues, synthesizing the next set of questions to push the field forward, and to discuss how combining approaches can result in a more mechanistic understanding of adaptation in the sea. This is exciting!	Living in a liquid environment instead of air should fundamentally influence how individual species may disperse, the interaction of species (particularly with bacteria), and the mechanisms for communication. Coastal species experience tremendous variation in abiotic variables (e.g., salinity, oxygen) not experienced in aerial environments and have surely resulted in unique adaptations. Speciation in the ocean may be quite different due to the reduced barriers for dispersal of gametes and larvae and the higher potential for gametes from different species coming into contact, thus mechanisms for formation of new species may involve unique mechanisms.
Increase and strenght networking and collaborations. Share my expertise and contribute to the study of the oceans in the current scenario of change.	I believe there are two main things unique in the ocean as a stage for evolutionary processes to play out. First, the high levels of spatial connectivity that the oceanic environment provides; second, the huge variability in temporal and spatial scales of ecological and biological processes. While in the open ocean these scales can be very big with low rates of change, in coastal areas the temporal and spatial scales are generally smaller than many terrestrial systems. The ocean environment is a natural laboratory with very different spatial and temporal dynamics that can help us to test for evolutionary processes in different scenarios of disturbance on a great variety of taxonomic groups.
networking, funding for student travel	replicated environmental gradients, dispersal

Considerable attention has been directed towards detecting and anticipating anthropogenic evolutionary influences in terrestrial systems; comprehensive syntheses for marine taxa and habitats are few and stymied by complications arsing from high dispersal, large Ne's, large species ranges, difficulties in undertaking controlled breeding experiments, etc. Clarifying the relevant issues and suggesting agendas for future studies would be an intellectually and ethically exciting challenge.	Marine species typically have large genetic effective population sizes (Ne) and high (and perhaps highly variable) migration rates. The resultant low influence of genetic drift clouds inferences regarding population divergence times and migration. Although planktonic larval dispersal is typically associated with "high" migration, the spatio-temporal variability of reproductive success and oceanographic processes undoubtedly creates highly variable dispersal connections (metapopulation dynamics), contributing to common observations of chaotic genetic patchiness. Environmental agents of selection (temperature, salinity, etc.) may also vary considerably in space and time. How, then, does selection act against this dynamic evolutionary tableau? Does high standing genetic variation contribute to adaptation, potentially with many possible polygenic solutions? Is migration load as strong as theory would suggest? Will phenotypes be especially plastic to enable phenotype-environment matching when the environments that offspring will encounter are unpredictable? Which species and locational attributes contribute to evolutionary resilience or vulnerability? I suspect the answers in marine settings may differ considerably as compared to findings from low Ne and low migration communities.
Participating in the RCN will help me to maintain (and expand) my professional network in both marine sciences and evolution. This is especially important for me as I have moved from studying marine systems to terrestrial for my postdoc, but I want to continue working in marine environments. Additionally, the readings and discussions will help me to further build my knowledge of evolutionary biology, which I can use to inform my current postdoctoral research as well as future projects.	The dynamic nature of marine systems, combined with the unique abilities of marine organisms to locally adapt (despite being in a seemingly 'open' system) make oceans a perfect place to understand the proximate and ultimate outcomes of ecological and evolutionary processes. This has been enhanced under current climatic conditions, as the oceans have become a model system to understand how species should respond to climate change over small and large spatial scales.
Joining a network of evolutionary ecologists and gaining opportunities for collaboration across disciplines, industries, and institutions. Being part of a community that, while diverse, shares research interests and a dedication to multidisciplinary relationships. Connecting with scientists who are addressing topics I plan to pursue during my graduate studies, and finding inspiration for new directions I may not have considered previously.	The ocean is interconnected and dynamic and complex and beautiful. Parsing out specific processes and identifying causal relationships amongst the organized chaos of a marine system is an exciting challenge. Eco-evolutionary relationships have been incredibly understudied in ocean systems, and yet the ocean is absolutely essential for our existence on earth. I view change in our oceans similarly to global mass extinctions – species are disappearing before we have the chance to identify them, and evolutionary processes are happening before we have the chance to quantify them. I don't have more to add, since a lot of freshwater and terrestrial systems are also useful, interesting, and well-documented stages for examining evolutionary processes. (Keep it simple, sunshine!)
Develop collaborations with other researchers, learn more about research in related areas (reading group), and be part of an ongoing dialogue on how to best approach some of the salient research questions in our fields today.	From a dispersal perspective the ocean is rather unique. It's a contiguous environment in some ways but also highly patchy in regards to substrate quality, nutrient availability, habitat types, etc. I think this contrast drives interesting evolutionary patterns where species, especially sessile species, need to balance their ability to disperse during early life history stages with the challenge of finding a suitable habitat. Changes in habitats with depth are also fascinating in the ocean. The unique task that deep sea species face in even being able to find a mate, for instance, can be quite a barrier from an evolutionary perspective. Trying to understand how species have evolved to overcome all these challenges can help us understand the limits (or lack thereof) of evolution.
I'd like to develop new collaborations, new papers, and new research directions.	Complex life histories with mobile and sessile stages
Hear others expertise on adaptation and response to environmental change.	Somewhat unique and varied life history strategies along with heterogeneity in environmental conditions
I hope to gain colleagues with different perspectives on marine evolution.	Marine animals have a greater diversity of life histories and reproductive modes than do terrestrial animals, so the space of evolutionary possibilities may also be greater. (I'm thinking of the ubiquity of things like coloniality, regeneration, incomplete germ/soma isolation, etc).

I would like to gain a broader understanding of methodologies that can be used to study adaptation in marine systems. As an early career scientist, participation in an interdisciplinary network will permit me to build on my expertise and conduct more holistic and robust science. By studying adaptation with a multi-disciplinary lens, I would like to develop a robust conceptual framework for assessing adaptation of taxa that are not amenable to multi-generational, long-term exposure experiments.	Marine systems experience a multitude of environmental and anthropogenic pressures that co-occur and integrate non-linearly. This unique interplay of biological and biophysical properties that operate at a variety of temporal and spatial scales requires an evolutionary-ecological perspective to mechanistically interpret emergent patterns.
I firmly think that collaborations are essential to the advancement of all scientific fields. Properly addressing research questions requires the involvement of multiple perspectives and expertise. The RCN can bring scientists together, which is the first step to forming new collaborations. In addition to the networking potential of the RCN, I would like to learn about the different perspectives scientists have in terms of their role as scientists in the academy and in the public sphere.	The ocean is a dynamic heterogenous environment greatly influenced by physical, biological, and chemical processes at grand and tiny scales. Humans are changing these processes at rates that species have not experienced during their recent evolutionary time. As environments change, organisms respond physiologically and populations shift accordingly. In addition to the interesting questions raised by the ways evolutionary processes play out in the ocean, such as the movement of genes and population bottlenecks, it is important to raise questions about degradation of the ecosystem services humans depend on. The implementation of effective conservation measures in the ocean requires good science.
I would love to develop a stronger sense of research being done in the RCN and foster personal relationships with those in this field. As an undergrad senior, graduation is surely approaching and I aim to seek opportunities that will prepare me to have a career in this field. Specifically, this RCN exists where my two ecological passions meet: evolution and the marine environment. I am hoping this is the perfect place to explore my post-grad options.	Simply, the biodiversity of the marine environment directly depend on the medium of water. The overwhelming control of water on the dynamics of the global ocean environment cannot be understated, it is quite literally dominating in presence and in effect. Organisms must adapt to a continually changing physical environment, be it temperature (of utmost relevance today), light availability, relative trophic level abundance, nutrient availability, oxygen and carbon dioxide availability, seasonal dynamics, mobility battles, reproductive strategies, behavioral responses, etc. When it comes to selective pressures for marine dwelling organisms, the stakes are as high. All this said, more than 80% of the world's big blue has not even been explored yet. Life finds a way, and in the risky business of inhabiting such an unforgiving and vast environment, oceanic life is most certainly a spectacular stage for unique evolutionary processes to occur.
This RCN seems like a great opportunity to foster collaboration and synthesis among researchers with shared interests. It is also an opportunity to bring together researchers who might otherwise be less likely to interact (for example, bringing together disparate disciplines, or researchers who work in different study systems, including marine vs. terrestrial).	I suspect that there are more similarities than differences when it comes to microevolutionary processes in the ocean versus on land. In both realms, understanding dispersal among populations is essential to understanding how evolution and adaptation play out. Marine systems are fascinating in this regard because there is considerable variation in life histories, dispersal potential, and gene flow -- even among species within the same community. In terms of macroevolution, we know that there are fewer total species (lower rates of speciation) in the sea than on land, but much higher phyletic diversity in marine systems. Rare species and specialization may be less common in the sea versus on land. Some of these differences may arise from differences in the physical properties of water versus air (Vermeij and Grosberg 2010, 2018).
I would like to learn more about the evolutionary perspectives of marine ecosystems and how they resemble terrestrial studies.	
As a graduate student, discussion and networking with people interested in similar kinds of questions. I think it's also important, for my personal development as a scientist, to think about evolutionary dynamics across systems. I think this RCN would be useful towards both these ends.	The complexity of the physical environment and the potential for connectivity across large spatial scales sets apart marine from terrestrial systems. The strong variation in the physical environment across both small and large spatial scales creates the potential for local adaptation, while the high potential for connectivity introduces the issue of accounting for the effects of gene flow on evolutionary adaptation. These inherent properties of the ocean environment set-up numerous systems to look into fundamental questions in evolutionary biology. Ultimately though, its the connections we can draw between how evolutionary processes play out in marine and terrestrial systems that can provide a more robust understanding of how evolution shapes diversity.

Exposure to marine systems, collaborations	It's not obvious that there are differences, but I'm excited to explore this question and many more!
I would like to connect with and learn from a diverse team of researchers with diverse perspectives who are interested in making advances in our understanding about how marine species will respond to current and projected ocean change. I am enthusiastic about the potential resources that will be generated by this group in terms recommendations on experimental design and analyses to assess, and perhaps predict, adaptation in the sea.	As a stage for evolutionary processes, I think what makes the ocean environment unique — relative to the terrestrial environment — are the physical traits of the medium (Dawson & Hamner 2008 J. R. Soc. Interface) in which species live. The characteristics of water, as opposed to air, can e.g., facilitate the spread of populations, propagules, pathogens, and pollutants, which can have important consequences for the eco-evolutionary responses of a subset of marine taxa.
network with senior scientists that can supervise work that connect both marine ecology and evolution + geneomics	no distinct physical barriers, but speciation still occurs
Understand how species can/ will shift with sea level rise or climate change, understand the rate of change of species assemblages across a landscape	A large scale continuum of environments across latitudes and depths in the ocean means a mosaic of changing species assemblages. Understanding the landscape ecology across areas of the ocean can help us understand how species might move/ adapt with major shifts in the environment (e.g. temperature).
Opportunity to work in an interdisciplinary way, with new colleagues, to learn new things, debate with others, gain new insights, develop new research directions.	Deeper than the tallest mountains; composed of large areas of deep, apparently homogenous, habitat that are punctuated by “oases” of heterogeneity including hydrothermal vents, cold seeps, and huge underwater volcanoes; dispersal processes for all plants/animals is through essentially the same medium – seawater; the “black box of the plankton” is still a major hole in our understanding (e.g. how strong are the evolutionary processes that take place during dispersal?)
I would like to develop a broader understanding of the fields outside marine science, and discover how I can integrate those fields in order to broaden my understanding.	The ocean allows many different environments for adaptation such as coral reefs were species are forced to constantly adapt and improve or be consumed. On the other hand, it can preserve living fossils on the bottom of the ocean, where the environment is so constant that species are the same as they were a millennia ago. It is fascinating to study the process.
Collaborating with other scientists	most of the planet
To undertake joint projects on coral reefs of the Persian Gulf.	The ocean environment is a connected environment, so its organisms pass a different path of evolution.
I am interested in learning more about the evolution of aquaculture species of cultural, ecological, and economic importance in an era of climate change. Understanding the plasticity of these organisms or capacity to adapt to oceanographic stressors is integral to environmentally and economically sustainable aquaculture operations. I hope to work with an international network of researchers to understand different species' responses to climate change on a global scale and innovate solutions.	The ocean is incredibly dynamic and rapidly changing. We are living in a unique moment where we can see how selection operates through community responses to uniquely intense acute and persistent oceanographic events, including months-long red tides and "warm blobs". Understanding community composition in the aftermath of these events provides a window into what the ocean will look like in a world under the siege of climate change.
I am hoping to get access to diverse ideas and approaches to understanding the impacts of climate change on the oceans and their biological systems.	Biodiversity and biomass in the oceans are high, but under increased pressures from human activities. In marine communities organisms compete for resources in many ways that do not occur in other habitats. This competition has led to a vast diversity of remarkable adaptations among marine organisms. In light of anthropogenic changes to the atmosphere and oceans, marine organisms face evolutionary pressure at unprecedented levels. We must increase our efforts both to understand and to ameliorate the effects of human activities.
As an early career scientist, the RCN is an excellent opportunity to meet and network with future potential colleagues and collaborators. I also hope to expand my understanding of evolutionary processes in the ocean and keep up with cutting-edge science in the field in order to effectively guide my own research directions.	One way the ocean is unique is the wide range of spatial and temporal scales relevant for evolutionary processes. For example, the ocean encompasses both the expansive open ocean–with gradual gradients in abiotic factors and few obvious physical barriers to dispersal, as well as dynamic intertidal habitats with dramatic environmental shifts over only a couple meters. Researchers working at these different scales could come to different conclusions about how evolutionary processes play out in the ocean.

Be updated in the latest developments in the fields of marine and evolutionary biology, getting in touch with study systems and methodological approaches I am not familiar with. Also, I believe this is a great opportunity for making new professional relationships.	The presence of "soft barriers" facilitating the admixture in ecological communities. This might be true at landscape level, but also in microbial communities colonizing different hosts. Dispersion in the water column may facilitate the process of colonization of macro-organisms by micro-organisms, both symbionts and pathogens. Given the faster life-cycles of microorganisms and the high dispersion potential of the oceanic environment, microbial communities are expected to respond rapidly to ongoing climatic change. Whether and how changes in microbial communities will affect longer-living macro-organisms is another interesting question. Potential outcomes ranging from the increased deterioration of macro-organism health through pathogenic and opportunistic infections, to increased resilience of the macro-organism through the sourcing of micro-organisms adapted to the new environmental conditions.
I would like to be connected to other researchers who are interested in the same types of questions that I am. I would like to learn what techniques others are applying and hopefully integrate the knowledge from this collective into my own research. I would also like to share the techniques I am applying so that others may critique or utilize it.	I think that the ocean environment represents a different set of challenges than that of other systems. For example, since there are less physical barriers in the ocean relative to the terrestrial environment, a process such as local adaptation can seem less likely to occur. This pushes us to look deeper into the variables which may lead populations to evolve separately even in the face of frequent gene flow. Since the terrestrial environment has been studied in higher depth and for longer, concepts like local adaptation do not always map onto the marine system well. This mis-alignment between terrestrial and ocean systems opens the marine environment up as a frontier for studying evolutionary processes.
scientific collaboration, conversation over pressing issues and questions	
Networking, learning about jobs that exist within these fields, and to hopefully increase my ability to get into a Ms or Phd program.	The ocean is one large constantly changing biome. With a thousand variables at play and changing the questions are limitless. I know this doesn't answer the question, but I can't in just 250 words.
I would like to find research and researchers outside my field who have skills and tools I can incorporate into future projects. I also hope to contribute to projects lead by researchers outside of my field.	I will start off with an overused theme in marine evolution: the absence of geographic barriers. Particularly true for broadcast spawners, the absence of geographic barriers produces high dispersal potential, high connectivity, and low population structure. As a result, one might assume speciation rates to be slow compared to terrestrial and freshwater systems. Predictably many marine species contradict this assumption and are diverging or have diverged extremely quickly (Sebastes, Notothenioidei, Gobiidae, etc.). These contradictions, often coming in the form of species flocks, may be the primary drivers of marine diversity and offer a near limitless number of questions to be explored. Additionally, water itself is an important factor in marine evolution. As opposed to air, water properties change dramatically at low and high Reynolds numbers exposing organisms to huge variations in ecology and physiology over their life histories. Barometric pressure and light also lead to alterations of physiology and behavior of organisms at depth. There are many more and varied aspects of the ocean which make it unique in an evolutionary context, and that variation makes the existence of this RCN all the more important.
Im a community ecologist with a long interest in evolutionary ecology and a budding interest in ecological genomics. Looking for others to interact with, serve as sounding boards for new ideas, etc. I'm curious what the community looks like out there... my perception is that a fair number of marine ecologists are pretty naive when it comes to modern evolutionary biology and approaches... (some statements you see in papers that would make you cringe if your intro biology student wrote them)	I'm tempted to say nothing because evolution is evolution. Sure you could say "dispersal is greater" but I could give you counter examples where its not very large and realized dispersal is likely pretty short. If I had to pick one key difference though, it would be that I perceive that marine organisms have far fewer specialized natural enemies than terrestrial organisms. Maybe that will turn out to not be true, but its certainly the case that specialized macroconsumers of most marine organisms are rare compared to terrestrial equivalents. Its less clear whether that holds for pathogens, but there are some pretty nasty and yet pretty general pathogens that attack relatively distantly related organisms in marine systems. Second key difference would be that large scale human impacts in the sea are more recent than on land and so one might argue that many terrestrial organisms have had a long evolutionary history with humans but that is less the case for marine systems. As a result, the explosion in the intensity of human impacts on the sea in the last 50 years is currently playing out on the evolutionary stage.

I would like to re-engaged with experts in theoretical ecology and evolution, and better convey current work to my undergraduate students (Just shared the "paradox of the plankton" with them last week. Completely selfishly, I love theoretical ecology, but do not often get to meet, or keep up with the work of current experts in the field.	Spatial and temporal variability at scales of m/cm/ microns have a large influence on survival, growth, and reproduction of the taxa in ocean and coastal ecosystems. We are still trying to characterize "real-world" physical variability at these scales; let alone model it, or replicate it in the lab. Biogeochemical variability is even more of a challenge. Heterogeneity in the environment vertically is more pronounced vertically than laterally, which adds complexity, so understanding physical oceanographic processes may be more critical to understanding evolution in marine vs terrestrial systems.
I would like to connect to researchers working on similar research topics to exchange ideas and initiate joint research projects.	
Evolutionary perspective and potential collaboration at interface of molecular biogeochemistry and evolution.	Low concentration, highly diverse substrate for microbial growth. Big spatial and long temporal scales. No need for structures of physical support or water harvesting.
A greater understanding of how the genetics link to larger scale work, as well as what is driving changes in them. I want to have a better idea of the impacts these changes have on the ocean in general and how they can be applied to my system and research interests.	I think that the connectivity of the ocean, with fragmentation happening on smaller scales than those so often seen in terrestrial environments makes it unique. There is also the interplay between the general stability of the system (in comparison to the greater extremes seen on land on a short term basis), and the incredible hydrodynamics of it. Additionally, I think that the prevalence of spawning and larval life stages can contribute to how evolution occurs in teh ocean.
Collaborations with others in the network, with the ultimate goal of comparing our results within and across systems. I'm interested in how rapid evolution affects ecological interactions, but also interested in talking to folks working in systems where evolution does NOT affect ecological interactions, and thinking about why eco-evolutionary interactions are important in some cases and not others.	Most of the examples of eco-evolutionary interactions have taken place in closed systems, either in artificial or natural microcosms. These cases are compelling, but it is equally interesting to consider the limits to the effects of contemporary evolution. Most ocean environments are relatively open and gene flow and genetic variation may be much more important than in many other systems. Gene flow is interesting because a little bit of gene flow can increase genetic variation and allow more opportunity for selection to occur. However, lots of gene flow may swamp out any effects of natural selection. The relative importance of gene flow will also depend on the origin of those individuals and the selection environment at their origin. Are they pre-adapted to their new environment? Or do they provide important genetic variation that might allow populations to evolve, rescuing them from important stressors, such as climate change?
New ideas about the current frontiers in our understanding of evolution in the oceans and how that differs and doesn't differ from evolutionary processes in other ecosystems + A broadened network of colleagues with similar interests.	Few obvious (but many cryptic) barriers to gene flow, high dispersal ability for many organisms (and great potential for both passive and active dispersal across most organisms), 3D landscape of steep environmental gradients, relatively recent history of strong human impact (with exceptions), unique environmental conditions, unique diversity of lineages.
A broader understanding of cutting edge work in evolutionary ecology and a sense of the unique challenges of doing eco-evo work in marine systems.	Physical and chemical oceanographic processes (currents, temperature, aragonite saturation, etc.) as drivers of speciation and barriers to dispersal.
Greater understanding of practical applications of evolutionary biology. A greater understanding of the current status and challenges facing ocean ecosystems.	
A network on marine scientists to tackle questions beyond my expertise	The predominant role of gene flow in determining the evolutionary trajectory of many marine organisms provides evolutionary biologists with higher power to study the process of adaptation and the genetics and physiological mechanisms underlying important local adaptations.

I hope to gain exposure to a wide array of sub-disciplines within evolutionary biology across study systems. Specifically I am interested in forming relationships with other students/researchers who may be studying processes much different from those I focus upon. Guidance and input from more senior researchers studying evolution in the oceans will surely be valuable in my development as a scientist.	The fluid marine environment ostensibly provides for heightened functional connectivity among populations. This presents the opportunity to study the mechanisms by which organisms can adapt to their local environment in the face of extensive gene flow. Organisms' relationships with the highly dynamic chemical and physical properties of the ocean and their often complex life history trajectories allow for selection to operate on many different stages throughout development. The rapid pace of environmental change in the ocean also presents a unique opportunity to study the ways in which species can respond evolutionary over short time-scales.
Increase collaborative network of science community	So much is still so poorly understood
I look forward to contributing to a synthesis of evolution in changing seas, and building a framework for moving forward. I am also excited to network and converse with other researchers working in this interdisciplinary and emerging research area.	The diversity of life histories, reproduction strategies, and ecologies of organisms in the ocean, combined with generally reduced physical barriers to dispersal create a unique evolutionary setting on which selection or drift may act. The vast phylogenetic diversity at higher levels of classification also leads to a wide array of traits among marine organisms, creating the potential for more frequent or greater differences in the response of organisms to the same environmental changes. Economically, the ocean's ecosystems are also incredibly valuable, and evolutionary effects of environmental changes on these systems have the potential to translate into far reaching sociological impacts.
Collaborations, meet new researchers, hear about different types of evolutionary based research.	
Networking opportunities with others in complementary disciplines interested in questions around ecological and evolutionary dynamics in the recent past through the distant future. I often integrate science across physical oceanography, spatial ecology, population ecology, and population genetics.	Simply, the slower physics, the vast spatial scales, and the unique life history profiles characterized by marine organisms. in particular, the importance and role that the larval form has on the ecology and evolution of marine organisms. I feel that larval biology and ecology is at the heart of evolution in the sea and must be understood to forecast future changes due to climate and anthropogenic forces.
I am curious to read the blogs, as I was unfortunately unable (due to course overlap) to join the associated seminar group at Cornell. I would love to learn more about this initiative before I join NIOO's microbial research in June, so I can take the key messages flowing from this initiative into account in my future research.	I believe the rate of acidification in oceans provides a unique environment for studying life's potential to adapt to critical changes in water chemistry (which may require adaptations even down to the cellular level/cell function). Additionally, intricate dynamics of ocean food webs and their importance to overall functioning of life in the ocean is unique (i.e. biogenic nutrient cycling), and how adaptation to acidification (or failure to do so) plays out on food-web level and how this feeds back to the whole ocean system I believe is a unique feature of the ocean's evolutionary landscape in the current age.
To network and be part of a global community that encourage and learn from each other.	It is a unique stage because humans have caused a great deal of change to it (intentionally and unintentionally) and we cannot foresee all the changes that may come from our influence. In a sense we are causing evolution to speed up (survival of the fittest), but not all organisms may not be fast enough to 'out-run' our influences. There is also our limited knowledge about the deep sea and that may be what is most unique regarding the ocean as a stage for evolutionary processes.
Explore applications of evolutionary genomics/genetics analyses for marine systems, particularly the application of data analysis methods designed to cope with missing or incomplete data sets (such as those developed for ancient DNA).	Logical constraints for running experiments and gathering data in this environment, which means that not only is the ocean environment unique (in particular marine connectivity) and changing rapidly, but also requires data analysis methods which are able to cope with missing or incomplete data sets.
I want to learn more about marine science and how I might be able to contribute to the field with my background in experimental evolution. As I look for a post doctoral position, I am interested in shifting my focus from laboratory experimental evolution to how my skills/ evolutionary framework can help address bigger questions about how marine systems/ organisms will respond to climate change.	To be honest- I'm not sure. The ocean has some very interesting organisms, and the physical characteristics of living in water vs. air/terrestrial environments puts different selective pressures on organisms/ affects migration/dispersal/nutrient transport/ gamete dispersal. Light is a limiting resource, and currents can bring in nutrients at varying intervals. I suppose to most striking characteristic of ocean environments is that they can fluctuate regularly in some characteristics (temperature, salinity, nutrients), but remain stable in others (e.g. light).

Expanded network; collaboration opportunities; mentorship	
I'd like to have an overview on what is being currently done in marine systems in the field of eco-evolutionary dynamics. Potentially this could prompt new ideas that could be transformed into projects, and foster new collaborations.	I'm not an expert on evolutionary ecology but I think fisheries are an incredible selection agent that can accelerate evolutionary processes. I'm interested in understanding if that happens, how fast and how important it is as compared to other forces in the ocean. On the other hand, the boundless nature of marine systems pose a challenge to evolution since physical barriers to gene flow are scarce.
I want to improve my functional understanding of adaptive evolution in marine populations with their characteristic large population sizes and high gene flow. Why do some populations have an almost panmictic structure and are others split? Also, how do marine metapopulations function?	Most characteristic are the large population sizes and low survival rates of many organisms. Obviously few parents make a large impact on the progeny of each generation, which may lead to selective sweeps. Also the equilibrium between high gene flow and the importance of genetic incompatibilities lead to barriers between populations. They may represent a first stage in the speciation process. What molecular processes do influence the formation of barriers?
What I would most to get out of RCN is a good network of researchers with similar ideas and interests that are willing to collaborate, share expertise and look for funding opportunities into the future.	This is easy from a southern African perspective - the interplay of an 'open system' that yet is defined by two very contrasting drivers of biographic and evolutionary patterns of marine species.
I want to see all opportunities available in these two fields, and particularly, to incorporate some evolutionary biology methods and insights into marine biology.	
Hoping we can identify new ways of asking questions that are unique to marine environments	The scale of interaction is so large that it is more difficult to assess with the same resources as many terrestrial organisms.
Interested to contribute, help with synthesis meeting design and execution, also benefit from obviously great blend of people and ideas that this RCN will yield.	From salt water, oceanic currents, deep sea environments, to unique tropical, temperate, and frigid eco zones, the ocean is a special evolutionary engine. The health of marine ecological and evolutionary processes will determine the fate of humanity.
I would like to be more involved within the marine science and evolution communities. I hope to attend workshops and conferences so that I can gain professional skills and network throughout my graduate career. I hope to find professional mentors that could guide me throughout my career and as I transition into a post-doc position in a few years.	The combination of physical/chemical/biological features in the ocean environment create a very unique setting for evolutionary processes to act. These features can change over a species' lifetime or numerous generations. For example, potential geographic barriers to migration can change over variable timelines and can affect species differently depending on their life history and ontogenic shifts. These features are also affected by anthropogenic activity, further compounding complications involved in the identification of signatures of evolution.
As an early career scientist, I am hoping to gain collaborations, be inspired by ideas and research promoted through this network, learn new methods, and enjoy the solidarity found in a group of like-minded researchers. Collaboration is incredibly important to my line of research and incorporating multiple data types and areas of expertise improves the science that I produce. This network provides a variety of ways to engage with other researchers, regardless of career stage and funding.	Variation in marine systems, including those that are incredibly diverse and species rich to extreme ones with low diversity. The conditions of these systems don't always lead to a predictable evolutionary outcome. There is so much that we still don't understand about marine ecosystems, and yet so many changes are occurring as we speak, creating an opportunity to explore a multitude of hypotheses in a variety of ecosystems. The possibilities for answering questions about adaptation and plasticity that are relevant to conservation and sustainability are practically limitless.
Interact with, and be influenced by, other evolutionary ecologists with diverse skills and paradigms. Make connections outside of evolutionary ecology, including oceanography and climate science. Advance our understanding of different ways of addressing the complexities inherent in measuring relevant environmental change, and predicting responses to future change. Enhance impact on public knowledge and perceptions of human/environment interactions.	Nothing fundamental, other than oceans being cool and important, and that counts for a lot.

I would like to network with other researchers, build collaborations, share resources, offer my skills, take part in international workshops, brainstorm, share ideas, write papers, mentor students, be mentored by successful scientists, and study the evolution of animal hosts and their symbionts in the ocean.	Habitats in the ocean can serve as a unique system to study evolutionary processes because of many reasons. I am listing a few reasons I find particularly interesting: (i) biodiversity hotspots, (ii) novelty and relatively understudied areas (so many species we do not even know anything about), (iii) vicariance events and allopatry, (iv) well-characterized symbioses, (v) large populations of some species giving power to apply population genetic or genomic models, (vi) same species replicated in different habitats or gradients thereof (acidification, temperature, turbulence, ...), (vii) core probes allow reconstruction of evolutionary history through deposited DNA, (viii) some habitats shed light on the origin and evolution of early life on this planet, and (ix) political borders can largely be ignored.
It would be interesting to network more with marine biologists that are interested in adding genetics and population genetics angles to their research. Also would like to stay informed of activities for myself or my students.	For response to climate change many marine systems are less thermally variable and other factors such as ocean acidification also will be important.
I would like to increase interactions and collaborations with evolutionary biologists (both marine and terrestrial), and incorporate a greater evolutionary perspective into my research. Additionally, I would like to keep up-to-date with literature and recent advances in the field of marine evolutionary biology.	Marine organisms display an expansive array of different behaviors and reproductive strategies. This, in combination with dynamic physical processes (e.g., currents, upwelling, eddies, tides, etc.), impacts how organisms and populations travel in the ocean. The ocean environment, therefore, provides an intriguing system in which to study evolutionary processes such as local adaptation, which can be quite prominent in the ocean despite the potential for extensive dispersal. From a global change biology perspective, it is also important to study evolutionary processes in marine environments because climate change will affect marine systems at different scales and at different rates than in terrestrial systems. Additionally, compared to terrestrial organisms, there is a more extensive and well-preserved fossil record of past marine organisms and their present-day analogs, providing opportunities to examine marine evolution using paleontological data.
Professional network and collaborations	Reefs are hubs of marine biodiversity. The coral species that compose the reef rely on algal symbioses, which are increasingly disturbed by changing climate. Understanding the evolutionary history of this coral–algal symbiosis is critical to predicting the fate of future reefs.
Evolutionary landmarks; molecular, physiological and genomic changes associated with marine-freshwater transitions; land colonization; early evolution	"Unique" with reference to non-ocean environment? If you ask what is unique about the salty liquid, then I can say that DNA is stable in saline solutions, but would break into pieces after being transferred to distilled water.
How physical conditions influence evolution in marine systems	
I'm about to start my own lab focused primarily on adaptations to climate change in seabirds. I would love to work with others asking similar questions of ocean systems, and to have the chance to form connections with oceanographers with a different perspective on ocean change than my own. I would also be very excited to contribute to the development of frameworks for studying adaptation to changing ocean environments, particularly with a view to translating studies into conservation outcomes.	Adaptations for the marine realm look very different to those for terrestrial environments. Marine organisms must deal with extremes in temperature, pressure, and water chemistry that require a suite of fascinating adaptations, both evolutionary and plastic in nature. Personally, I find the evolutionary processes that led to diving behavior in marine birds and mammals particularly interesting. Seabirds and marine mammals breathe air, and many raise their young in land-based colonies, yet they have evolved to spend large portions of their lifecycles in the ocean and cope with immense pressures while diving. Many of the physical and biological properties of the ocean environment that marine organisms are adapted to are changing far more rapidly than within terrestrial systems, begging the question of whether marine taxa will be able to adapt quickly enough to survive in the future.

I'm interested in developing new collaborations, and more generally learning from folks with a variety of disciplinary perspectives	Trivially, the ocean is made of water. For aquatic animals like corals, this might mean that horizontal transmission of microbial symbionts can occur more readily than in terrestrial environments. There are lots of examples (e.g. Endozoicomonas, Symbiodinium) where related marine microorganisms associate with phylogenetically diverse partners, and it seems possible that the relative ease of microbial transmission in the ocean might have something to do with this. I am especially interested in how these dynamics interact with internal vs. external fertilization of gametes. The ocean is also interesting from the point of view of microbial evolution because saline vs. non-saline environments represent one of the most important splits in terms of microbial community composition - and this split appears to influence microbial communities much more than other parameters (temperature, nutrients, pH) that were originally hypothesized to filter microbes.
A platform to expand my current research to marine environments.	Nothing special beyond that relevant biological processes started in water
Contact with other scientists and potential collaborations.	From an evolutionary perspective it is extremely interesting to understand how organisms diversify in absence of geographic barriers. From a conservation perspective, it is imperative to understand how marine organisms will respond/acclimate to the effects of climate change.

[1] Responder updated this value.