JASON D. SELWYN

88 Wordsworth St.
East Boston, MA 02128
+1 (603) 264-5548
jdselwyn@gmail.com
jdselwyn.github.io

EDUCATION

Texas A&M University		Corpus Christi, TX
Ph.D. in Marine Biology	May 2022	Advisor: Dr. J. Derek Hogan
M.S. in Marine Biology	August 2015	Advisor: Dr. J. Derek Hogan
Northeastern University		Boston, MA
B.S. in Biology	May 2011	*summa cum laude*

PUBLICATIONS

14. **Selwyn, J. D.**, B. A. Despard, M. V. Vollmer, E. C. Trytten, and S. V. Vollmer. 2024. Identification of putative coral pathogens in endangered Caribbean staghorn coral using machine learning. Environmental Microbiology 26:e16700.
13. **Selwyn, J. D.**, and S. V. Vollmer. 2023. Whole genome assembly and annotation of the endangered Caribbean coral *Acropora cervicornis*. G3 Genes|Genomes|Genetics:jkad232.
12. Vollmer, S. V.†, **J. D. Selwyn**†, B. A. Despard, and C. L. Roesel. 2023. Genomic signatures of disease resistance in endangered staghorn corals. Science 381:1451–1454.
11. Mullis, M. M., **J. D. Selwyn**, R. Kevorkian, E. D. Tague, H. F. Castro, S. R. Campagna, K. G. Lloyd, and B. K. Reese. 2023. Microbial survival mechanisms within serpentinizing Mariana forearc sediments. FEMS Microbiology Ecology:fiad003.
10. **Selwyn, J. D.**, E. P. Hunt, D. S. Portnoy, and J. D. Hogan. 2022. Maintenance of species boundaries within social aggregations of ecologically similar goby sister species. Marine Biology 169:32.
9. Rue, C. R.*†, **J. D. Selwyn**†, P. M. Cockett, B. Gillis, L. Gurski, P. Jose, B. L. Kutil, S. F. Magnuson, L. Á. L. de Mesa, R. D. Overath, D. L. Smee, and C. E. Bird. 2021. Genetic diversity across the mitochondrial genome of eastern oysters (*Crassostrea virginica*) in the northern Gulf of Mexico. PeerJ 9:e12205.
8. Beeken, N. S., **J. D. Selwyn**, and J. D. Hogan. 2021. Determining the life history strategy of the cryptobenthic reef gobies *Coryphopterus hyalinus* and *C. personatus*. Marine Ecology Progress Series 659:161–173.
7. Hamilton, A. M.*, **J. D. Selwyn**, R. M. Hamner, H. K. Johnson, T. Brown, S. K. Springer, and C. E. Bird. 2020. Biogeography of shell morphology in over-exploited shellfish reveals adaptive trade-offs on human-inhabited islands and incipient selectively driven lineage bifurcation. Journal of Biogeography 47:1494–1509.
6. **Selwyn, J. D.**, J. E. Johnson, A. M. Downey-Wall, A. M. Bynum, R. M. Hamner, J. D. Hogan, and C. E. Bird. 2017. Simulations indicate that scores of lionfish (*Pterois volitans*) colonized the Atlantic Ocean. PeerJ 5:e3996.
5. Usseglio, P.†, **J. D. Selwyn**†, A. M. Downey-Wall, and J. D. Hogan. 2017. Effectiveness of removals of the invasive lionfish: how many dives are needed to deplete a reef? PeerJ 5:e3043.
4. Harborne, A. R., **J. D. Selwyn**, J. M. Lawson, and M. Gallo. 2017. Environmental drivers of diurnal visits by transient predatory fishes to Caribbean patch reefs. Journal of Fish Biology 90:265–282.
3. MacKay, M. M., B. Würsig, C. E. Bacon, and **J. D. Selwyn**. 2016. North Atlantic humpback whale (*Megaptera novaeangliae*) hotspots defined by bathymetric features off western Puerto Rico. Canadian Journal of Zoology 94:517–527.
2. **Selwyn, J. D.**, J. D. Hogan, A. M. Downey-Wall, L. M. Gurski, D. S. Portnoy, and D. D. Heath. 2016. Kin-Aggregations Explain Chaotic Genetic Patchiness, a Commonly Observed Genetic Pattern, in a Marine Fish. PLOS ONE 11:e0153381.
1. **Selwyn, J. D.**, J. D. Hogan, A. Downey-Wall, and P. Usseglio. 2014. Decadal changes in reef fish recruitment at Turneffe Atoll, Belize: before and after lionfish invasion. Proceedings of the 66th Gulf and Caribbean Fisheries Institute. Corpus Christi, Texas, USA.

*: Mentored Student, †: Contributed Equally

PUBLICATIONS IN REVIEW & REVISION

1. **Selwyn, J. D.**, B. A. Despard, K. A. Galvan-Dubois, E. C. Trytten, and S. V. Vollmer. in review. Antibiotic Pretreatment Inhibits White Band Disease Infection by Suppressing the Bacterial Pathobiome. Frontiers in Marine Science.

PUBLICATIONS IN PREPERATION

1. **Selwyn, J. D.**, P. Usseglio, and J. D. Hogan. in prep. Photogrammetry derived habitat model enables characterization of fine-scale habitat use in a pair of coral reef fishes (CORE-S-21-00271). Coral Reefs.

PRESENTATIONS

28. **Selwyn, J. D.,** B. A. Despard, C. L. Roesel, S. V. Vollmer. 2023. Genomic signatures of disease resistance in endangered staghorn corals. Evolution. Albuquerque, NM, USA.
27. Vollmer S. V., J. D. Selwyn, B. A. Despard, C. L. Roesel. 2023. Genomic signatures of disease resistance in endangered staghorn corals. ASLO Aquatic Sciences Meeting. Palma de Mallorca, Spain.
26. *__Selwyn, J. D.__, S. F. Magnuson, P. Usseglio, C. E. Bird, J. D. Hogan. 2022. Determining the effect of variability on habitat quality on dispersal in a marine fish. Spring Student Research Symposium. Corpus Christi, TX, USA.
25. __Selwyn, J. D.__, and J. D. Hogan. 2021. The relationship between habitat heterogeneity and dispersal of a coral reef fish. International Coral Reef Symposium. Virtual.
24. Ruben, Z., C. Bird, A. Bucol, **J. D. Selwyn**, K. Carpenter, E. Garcia, and I. Lopez. 2020. Evaluating the Effect of Selective Fishing Pressures on Size and Reproductive Capability of a Philippine Reef Fish. Ocean Sciences Meeting. San Diego, California, USA.
23. Broquet, N., **J. D. Selwyn**, D. Vaughan, J. Pollack, A. Siccardi, and J. Scarpa. 2020. Applicability of the Microfragmentation Technique to Propagate Corals in a Fisherfolk Community in the Philippines. Aquaculture America. Honolulu, Hawai‘i, USA.
22. Hamilton, A. M., **J. D. Selwyn**, and C. E. Bird. 2019. Biogeography of shell morphology in over-exploited intertidal shellfish reveals attenuated passive thermal resistance on inhabited Hawaiian Islands. Providence, Rhode Island, USA.
21. ***__Selwyn, J. D.__, E. P. Hunt, and J. D. Hogan. 2019. Mixed shoals of the goby species complex *Coryphopterus personatus/hyalinus* in Belize. 8th Annual MSGSO Student Research Forum, Corpus Christi, Texas, USA.
20. Hamilton, A. M., **J. D. Selwyn**, and C. E. Bird. 2019. Biogeography of shell morphology in over-exploited shellfish suggests adaptation on human-inhabited islands and incipient lineage bifurcaton. 8th Annual MSGSO Student Research Forum, Corpus Christi, Texas, USA.
19. __Selwyn, J. D.__, P Usseglio, and J. D. Hogan. 2019. Fine-scale microhabitat usage of a putative habitat generalist reef dwelling goby, *Coryphopterus personatus*. Southern Division of the American Fisheries Society Annual Meeting, Galveston, Texas, USA.
18. __Selwyn, J. D.__, J. E. Johnson, A. M. Downey-Wall, A. M. Bynum, R. M. Hamner, J. D. Hogan, and C. E. Bird. 2018. *Veni vidi vici*: How many lionfish came to conquer the Atlantic? Joint Meeting of Ichthyologists and Herpetologists, American Society of Ichthyology and Herpetology, Rochester, New York, USA.
17. __Selwyn, J. D.__, P Usseglio, and J. D. Hogan. 2018. Fine-scale microhabitat usage of a putative habitat generalist reef dwelling goby, *Coryphopterus personatus*. Benthic Ecology Meeting, Corpus Christi, Texas, USA.
16. __Selwyn, J. D.__, J. E. Johnson, A. M. Downey-Wall, A. M. Bynum, R. M. Hamner, J. D. Hogan, and C. E. Bird. 2018. *Veni vidi vici*: How many lionfish came to conquer the Atlantic? Texas Chapter of the American Fisheries Society Annual Meeting, College Station, Texas, USA.
15. __Selwyn, J. D.__, P Usseglio, and J. D. Hogan. 2017. Fine-scale microhabitat usage of a putative habitat generalist reef dwelling goby, *Coryphopterus personatus*. 7th Annual MSGSO Student Research Forum, Corpus Christi, Texas, USA.
14. __Selwyn, J. D.__, P. Usseglio, and J. D. Hogan. 2017. Fine-scale microhabitat usage of a putative habitat generalist reef dwelling goby, *Coryphopterus personatus*. Joint Meeting of Ichthyologists and Herpetologists, American Society of Ichthyology and Herpetology, Austin, Texas, USA.
13. __Selwyn, J. D.__, P. Usseglio, A. M. Downey-Wall, and J. D. Hogan. 2017. Effectiveness of removals of the invasive lionfish: how many dives are needed to deplete a reef? Texas Chapter of the American Fisheries Society Annual Meeting, Corpus Christi, Texas, USA.
12. __Selwyn, J. D.__, J. E. Johnson, A. M. Bynum, A. M. Downey-Wall, J. D. Hogan, and C. E. Bird. 2016. How many lionfish was it really? 6th Annual MSGSO Student Research Forum, Corpus Christi, Texas, USA.
11. Curtis-Quick, J., A. R. Harborne, A. M. Hendrix, A. Waldman, R. Drummond, A. Feiler, E. O’Hara, H. Conlon, S. E. Miller, **J. D. Selwyn**, S. J. Green, J. L. Akins, and I. M. Côté. 2016. Lionfish feeding habits and the implications for reef benthic cover. 13th International Coral Reef Symposium, Honolulu, Hawaii, USA.
10. __Selwyn, J. D.__, D. S. Portnoy, D. D. Heath, and J. D. Hogan. 2016. Local dispersal leading to family groups in a widespread Caribbean goby. 13th International Coral Reef Symposium, Honolulu, Hawaii, USA.
9. Curtis-Quick, J., A. Hendrix, A. Waldman, A. Brown, R. Drummond, A. Feiler, S. Miller, **J. D. Selwyn**, S. Green, J. L. Akins, and I. M. Côté. 2016. The lionfish invasion: cause the decline. The Bahamas Natural History Conference, Nassau, The Bahamas.
8. MacKay, M. M., C. E. Bacon, B. G. Würsig, and **J. D. Selwyn**. 2015. Humpback Whales (*Megaptera novaeangliae*) Cluster by Geological Features Off Puerto Rico, USA. Society of Marine Mammalogy, San Francisco, California, USA.
7. __Selwyn, J. D.__, D. Portnoy, D. Heath, and D. Hogan. 2015. Kin aggregations explain a commonly observed genetic pattern in a marine fish species. Joint Meeting of Ichthyologists and Herpetologists, American Society of Ichthyology and Herpetology, Reno, Nevada, USA.

6. **Selwyn, J. D.**, D. Portnoy, D. Heath, and D. Hogan. 2015. The Essence of Chaos: Family groups in a ubiquitous Caribbean Goby. Harte Research Institute Seminar Series, Harte Research Institute, Corpus Christi, Texas, USA.
5. **Selwyn, J. D.**, D. Portnoy, D. Heath, and D. Hogan. 2015. The Essence of Chaos: Family groups in a ubiquitous Caribbean Goby. Graduate Student Symposium, Dauphin Island Sea Lab, Dauphin Island, Alabama, USA.
4. **Selwyn, J. D.**, A. Downey-Wall, L. Gurski, D. S. Portnoy, D. D. Heath, and J. D. Hogan. 2015. Family groups in a ubiquitous Caribbean Goby. Marine Biology IDP Retreat and Science Symposium, College Station, Texas, USA.
3. ***Selwyn, J. D.**, A. Downey-Wall, L. Gurski, D. S. Portnoy, D. D. Heath, and J. D. Hogan. 2014. Family groups in a ubiquitous Caribbean Goby. 4th Annual MSGSO Student Research Forum, Corpus Christi, Texas, USA.
2. **Selwyn, J. D.**, A. Downey-Wall, P. Usseglio, and J. D. Hogan. 2013. Decadal changes in reef fish recruitment at Turneffe Atoll, Belize: before and after lionfish invasion. Gulf and Caribbean Fisheries Institute, Corpus Christi, Texas, USA
1. Keafer, B.A., B.G. Crespo, K. Norton, **J. D. Selwyn**, M. Richlen, D. Farber, H. Lind, M. Hickey, T. O'Neil, and D.M. Anderson. 2009. Toxic *Alexandrium fundyense* blooms in the Nauset Marsh system on Cape Cod Massachusetts. Fifth Symposium on Harmful Algae in the U.S., Ocean Shores, Washington, USA.

*: Won Award, Underlined: Presenting Author

POSTERS

9. Ruben, Z., C. Bird, A. Bucol, **J. Selwyn**, K. Carpenter, E. Garcia, and I. Lopez. 2020. Evaluating the Effect of Selective Fishing Pressures on Size and Reproductive Capability of a Philippine Reef Fish. Ocean Sciences Meeting, San Diego, California, USA
8. Broquet, N., **J. Selwyn**, D. Vaughan, J. Pollack, A. Siccardi, and J. Scarpa. 2020. Applicability of the Microfragmentation Technique to Propagate Corals in a Fisherfolk Community in the Philippines. Aquaculture America, Honolulu, Hawai'i, USA.
7. **Selwyn, J. D.**, E. P. Hunt, D. S. Portnoy, and J. D. Hogan. 2019. Mixed shoals of the goby species complex *Coryphopterus personatus/hyalinus* in Belize. Joint Meeting of Ichthyologists and Herpetologists, American Society of Ichthyology and Herpetology, Snowbird, Utah, USA.
6. Bachner, M., **J. D. Selwyn**, and C. E. Bird. 2019. Morphological response of *Siganus fuscescens* to variability in fishing pressure. 8th Annual MSGSO Student Research Forum, Corpus Christi, Texas, USA.
5. **Selwyn, J. D.**, J. E. Johnson, A. M. Downey-Wall, A. M. Bynum, R. M. Hamner, J. D. Hogan, and C. E. Bird. 2017. *Veni vidi vici*: How many lionfish came to conquer the Atlantic? Marine Aquarium Conference of North America, Marine Aquarium Society of North America, New Orleans, Louisiana, USA.
4. **Selwyn, J. D.**, A. Downey-Wall, P. Usseglio, and J. D. Hogan. 2013. Decadal changes in reef fish recruitment at Turneffe Atoll, Belize: before and after lionfish invasion. Texas A&M System 11th Pathways Annual Conference, Kingsville, Texas, USA.
3. Downey-Wall, A., **J. D. Selwyn**, P. Usseglio, and J. D. Hogan. 2013. Characterization of diet composition of the lionfish, *Pterois volitans*, in Turneffe Atoll, Belize. Corpus Christi, Texas, USA.
2. Cram, L.*, N. Grune*, K. Forness*, G. Taliaferrow*, A.-M. Carroll*, E. Witte*, S. Miller, and **J. D. Selwyn**. 2012. Biotic Factors that Influence the Re-colonization of Lionfish (*Pterois volitans*) on Patch Reefs in South Eleuthera. The Cape Eleuthera Island School Research Symposium, Cape Eleuthera, The Bahamas.
1. Harpin, K.*, J. Morris*, M. Philipp*, F. Rappaport*, T. Tracy*, L. Zweig*, S. Auscavitch, T. Christie, S. Miller, and **J. D. Selwyn**. 2011. Effects of Grouper and Reef Type on Lionfish (*Pterois volitans*) Distribution, Cape Eleuthera, The Bahamas. The Cape Eleuthera Island School Research Symposium, Cape Eleuthera, The Bahamas.

AWARDS, SCHOLARSHIPS & GRANTS – ($63,800)

- TAMUCC Marine Biology Research Fellowship (6x) $52,800
- Steven Berkeley Marine Conservation Fellowship – Runner Up $1,000
- Carl R. Beaver Memorial Scholarship (5x) $5,000
- Karen Koester Dodson Memorial Fund Grant $1,000
- Texas SeaGrant: Grants in Aid of Research (2x) $3,000
- TAMUCC College of Science and Engineering Graduate Scholarship $1,000

RESEARCH EXPERIENCE

Texas A&M University – Genomics CORE Lab
Associate Research Scientist October 2024 – Present Corpus Christi, TX

Northeastern University
Postdoctoral Research Associate June 2022 – July 2024 Boston, MA

- Research, analysis, writing, and dissemination to understand the evolutionary history and ecology

of the coral *Acropora cervicornis*
- Bioinformatic analyses including genome and transcriptome assembly, genome structural and functional annotation, RNAseq analysis, low coverage whole genome analysis
- Mentorship and collaboration with undergraduate and graduate students

Texas A&M University
Statistical Consultant August 2019 – May 2022 Corpus Christi, TX
- Assist graduate students and faculty with statistical design and analysis

CC-TAMUCC COVID19 Taskforce
Modeler March 2020 – December 2021 Corpus Christi, TX
- Implement and develop statistical models to allow governmental planning and response to the COVID-19 pandemic
- Assist in production of weekly reports to Nueces County, Corpus Christi, and the public on the progress and forecast of the spread of the COVID-19 pandemic

Texas A&M University
Research Assistant January 2016 – July 2018 Corpus Christi, TX
August – December 2020
January 2022 – May 2022
- Marine Biology Ph.D. Research Assistantship designed to allow recipients to focus on and expand their dissertation research to a more well-rounded dissertation

Fundación In-nova Centro de Innovación
Statistical Consultant August 2017 – November 2017 Toledo, Spain
- Remotely develop statistical model for estimating the number of deer present in a farm from areal drone surveys

Research Assistant/Technician
Patricia Cockett Ph.D. Research January – June 2015 Corpus Christi, TX
- Create statistical programs and functions to analyze pooled RADseq data.

Alan Downey-Wall Master's Research June – August 2014 Turneffe Atoll, Belize
- Collection of the invasive red lionfish
- Planning of summer research activities including logistics, diving safety, and supplies

Grayce Palmer Master's Research January & October 2014 Bocas del Toro, Panama
- Collection of *Stegastes partitus* for research on genetic impact of the invasive red lionfish

Paul Caiger Ph.D. Research October 2012 – February 2013 Auckland, New Zealand
- Diving assistance for research investigating the effect of habitat on growth and fitness of triplefins

Kirsten Martin Master's Research July – August 2012 Wellfleet, MA
- Surveyed heathland habitats for grass/shrub biodiversity
- Collected soil samples and process for nutrients

Bailey Clear's Master's Research August – November 2011 Eleuthera, The Bahamas
- Collected microhabitat usage data for lionfish and similar sized native grouper
- Assisted with manuscript writing, editing, and statistical analysis
- Analyzed fish species, family, and feeding guild diversity

Heidi Block's Master's Research January – March 2010 Moorea, French Polynesia
- Assisted in the collection of *Gnatholepis caurensis* and *Chromis viridis* recruits for a mortality study

Cape Eleuthera Institute
Lionfish Research Assistant January – July 2012 Eleuthera, The Bahamas

- Survey fish biodiversity, benthic habitat type, coral cover, and rugosity
- Designed and performed a habitat mapping project
- Organize and participate in outreach events at local farmer's markets and restaurants
- Analyze videos to determine transient predator usage of patch reefs
- Mentor interns and organize professional development activities

Lionfish Research and Education Intern August – December 2011 Eleuthera, The Bahamas

- Performed monthly fish biodiversity surveys on patch reefs
- Performed dissections, gut content analysis, and otolith removal on lionfish
- Environmental impact monitoring and maintenance of offshore aquaculture cage

New England Aquarium

Giant Ocean Tank Assistant Aquarist July 2010 – August 2011 Boston, MA

- Performed daily maintenance and feeding dives and assisted with husbandry responsibilities such as record keeping, food preparation, cleaning, and transports
- Monitored damselfish egg mass production
- Participated in the transport of live animals including large sharks between aquarium sites
- Supervised and trained volunteers and interns

Penguin Husbandry Co-op and Volunteer January 2008 – August 2009 Boston, MA

- Assisted penguin staff with husbandry responsibilities including record keeping, food preparation, feeding, cleaning, and handling
- Supervised and trained volunteers and presented educational programs

Woods Hole Oceanographic Institute Woods Hole, MA

Research Assistant January – July 2009 Dr. Don Anderson

- Collected and processed data regarding the concentrations of *Alexandrium fundyense* in the Nauset Marsh and Gulf of Maine
- Collected weekly water samples from the Nauset Marsh

Operation Wallacea

Research Assistant July – August 2007 Sulawesi, Indonesia

- Assisted research on the reef ecosystems of the Wakatobi Marine National Park
- Performed Reef Check surveys
- Monitored *Labroides dimidiatus* cleaning stations

Northeastern University Boston, MA

Laboratory Assistant July – December 2008 Dr. Donald O'Malley

- Maintained the lab zebrafish population and assisted in breeding of zebrafish lines to be used for neurobiology research

CenSSIS Laboratory

Lab Assistant/Python Programmer October 2006 – April 2007 Boston, MA

- Created programs using Python to control the KECK 3D Fusion microscope

TEACHING EXPERIENCE

Northeastern University

Lecturer July 2023 – Present Boston, MA

- Marine Biology Research Project (EEMB 7674)
    - Guide students through statistical analysis of independent projects
    - Help students identify testable hypotheses designed to address their research objectives

Texas A&M University

Teaching Assistant September 2013 – December 2015 Corpus Christi, TX

July 2018 – June 2020

- Instruct undergraduate lab and recitation courses in:
  - Introduction to Biology I (BIOL 1406)
  - Genetics (BIOL 2416)
  - Microbiology (BIOL 2421)
  - Invertebrate Zoology (BIOL 3431)
  - Marine Ecology (BIOL 4336)
  - Statistics for Life (MATH 1442)
- Grade graduate level Statistics courses:
  - Statistical Methods in Research I (MATH 6315)
  - Statistical Methods in Research II (MATH 6316)
  - Mixed Effects Models for Scientists (MATH 6317)
  - An Introduction to Bayesian Statistics (MATH 6318)
- Design recitation activities and assignments to enhance student learning in Genetics (BIOL 2416)

The Island School

Research Class Teacher January – June 2012 Eleuthera, The Bahamas

- Design course objectives, curriculum, and syllabus for a scientific research class at a boarding high school
- Design a field experiment to be performed by students
- Perform parent-teacher and teacher-student conferences
- Designed and taught an introduction to statistics class to entire student body

Research Class Teaching Assistant August – December 2011 Eleuthera, The Bahamas

- Assisted in the design, implementation, and analysis of a student experiment
- Facilitated classroom discussions on statistics, journal articles, and the ecology of invasive lionfish
- Created question sets for students on assigned journal articles

SERVICE ACTIVITIES

Society Memberships

- International Society for Reef Studies
- American Society of Ichthyologists and Herpetologists
- American Fisheries Society
- Texas Chapter of the American Fisheries Society
- Texas A&M University: Corpus Christi Student Subunit of the Texas Chapter of the American Fisheries Society
  - Secretary (October 2018 – May 2020)
  - Vice-President (May 2020 – December 2021)
- Texas A&M University – Corpus Christi: Marine Science Graduate Student Organization
  - Treasurer (September 2013 – September 2014)
- Texas A&M University – Corpus Christi: University Council of Student Organizations
  - Funding Committee (September 2016 – May 2022)

Greenpeace New Zealand

Database Assistant January – June 2013 Auckland, New Zealand

- Develop new ways to check signed petitions for people already existing in our database and then import new information to existing supporters and new supporters into the database
- Ensure information in database is entered correctly
- Process weekly and monthly credit card and direct debit transactions

Speak up for Blue

Contributing blogger December 2012 – April 2013 www.speakupforblue.com

- Publish two monthly articles raising awareness about various ocean topics

2evolve
Telefundraiser October – December 2012 Auckland, New Zealand
- Fundraise on behalf of charities such as Amnesty International to build membership for ongoing charitable campaigns and raise awareness about ongoing global issues

National Honors Society September 2005 – June 2006 Medway, MA

Boy Scouts of America September 1999 – December 2006 Medway, MA
- Eagle Scout May 2006

GRADUATE COURSEWORK

Statistics/Modelling
- Statistical Methods in Research I (MATH 6315)
- Statistical Methods in Research II (MATH 6316)
- Mixed Effects Models (MATH 6317)
- Systems Analysis (CMSS 6303)
- Introduction to Bayesian Statistics (MARB 6590)

Biology
- Marine Ecology (MARB 6436)
- Marine Ecosystem Dynamics (MARB 6590)
- Marine Genetics (MARB 6590)
- Coral Reef Systems (MARB 6301)
- Marine Plankton (MARB 6430)
- Evolutionary Genetics (MARB 6590)

* MARB 6590 is a special topics course which changes each semester

SKILLS AND QUALIFICATIONS

Certifications:
- PADI Divemaster >1500 dives logged; >900 hours
- AAUS Scientific Diver
- SSI Enriched Air Nitrox
- EMT-Basic, CPR, DAN O_2, AED, DAN Professional Diving First Aid
- REEF Caribbean Fish ID Level 4

Field and Laboratory:
- Subtidal fish and invertebrate surveys; collection of live fish, invertebrates, and corals; fish sizing; CTD rosette and nisken bottle deployment; sterile processing of water samples; soil coring
- Small boat driving
- Dissections; otolith removal; gut content analysis; DNA Extractions; PCR; fluorescent and light microscopy; fluorescent staining; KCl extraction of NH_4^+ and NO_3^-; microsatellites; ddRAD

Statistical & Machine Learning:
- Bayesian & Frequentist Inference
- Generalized linear (mixed) models
- Random Forests; Decision Trees; Support Vector Machines; Neural Networks;
- Multivariate Methods; Clustering; PCA; (n)MDS; RDA;

Bioinformatic:
- Genome Assembly & Annotation
- Variant Calling; GWAS; LFMM; DAPC
- Bulk RNAseq; ORA; GSEA
- Phylogenetic Inference
- Population Structure

Computer:
- Linux; PC; Macintosh;

- R; BASH; Julia; Python; SQL
- SLURM;
- JMP; QGIS; Agisoft Pro; ImageJ; CPCe;
- Microsoft Office; EndNote; Zotero;

Husbandry:
- Penguin; Elasmobranch; Sea Turtle; Teleost

Language:
- Conversational in French
