

Curriculum Vitae of
DR. JOAQUIN CANAL BOSQUE NUNEZ
 Assistant Professor of Biology, University of Vermont

Department of Biology
 Office: MLS 321A
 109 Carrigan Drive
 Burlington, VT 05405

Phone: 802-656-8283
 Website: www.jcbnunez.org
 Email: joaquin.nunez@uvm.edu
 ORCID: 0000-0002-3171-8918

EDUCATION

Ph.D., Brown University, Providence, RI (2015-2020)
 M.Sc., Brown University, Providence, RI (2015-2018)
 B.Sc., University of Miami, *Summa Cum Laude*, Coral Gables, FL (2013-2015)
 A.A., Miami Dade College, Highest Honors, Miami, FL (2011-2013)

RESEARCH INTERESTS

Fields of expertise: Evolutionary genomics, population genetics, molecular evolution, computational biology.

Study systems/models: Fruit flies (*Drosophila melanogaster*; *D. suzukii*; other drosophilids), sea urchins (*Strongylocentrotus*), water fleas (*Daphnia*), ants (*Veromessor*), barnacles (*Semibalanus sp.*), and minnows (*Fundulus*).

PROFESSIONAL APPOINTMENTS

08/2024 – Present	Assistant Professor of Biology, Dept. of Biology, University of Vermont, Burlington, VT.
09/2023 – 08/2024	Henderson-Harris Fellow, Dept. of Biology, University of Vermont, Burlington, VT.
08/2020 – 07/2023	Research Associate, Dept. of Biology, University of Virginia, Charlottesville, VA.
07/2019 – 10/2019	Visiting Fellow, <i>Tjärnö</i> Marine Laboratory, University of Gothenburg, <i>Tjärnö</i> , Sweden.

LEADERSHIP POSITIONS

10/2023 – Present	Member of the Leadership Team, Biological Data Science (BiDS) program, University of Vermont, Burlington, VT.
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RESEARCH SUPPORT

11. “Characterizing how climate change alters the invasion front of the agricultural pest *Drosophila suzukii*.” University of Vermont, *EXPRESS*: Early Extra Promotion of Research & Scholarly Success. Award Amount: US \$3,000. November 15, 2024 – December 31, 2025. PI: **JCB Nunez**

10. “Planetary Health Postdoctoral Fellows Program: Infectious Disease Modeling in a Changing World.” University of Vermont Planetary Health Initiative. Award Amount: US \$132,000 (Post-Doc Salary + Research Support). September 1, 2025 - September 1, Fall 2027. Co-PIs: M. Pespeni, **JCB Nunez**, and M. Elise Lauterbur.

9. “Collaborative Research: ORCC: Climate change responses in a globally invasive insect: Quantifying the roles of local adaptation, seasonal adaptation, and phenotypic plasticity.” National Science Foundation (NSF). Organismal Responses to Climate Change, Co-Funded by IOS and EPSCoR. Award Number: 2412801. Award Amount: US \$501,476 to UVM (Total amount of the collaborative grant: \$1,390,732). Period of performance: December 1, 2024 - November 30, 2028. PI: **JCB Nunez**; Co-PI(s): Nick Teets and Katie Lotterhos.

8. “IRES: Monitoring marine megafauna and coral reef communities using remote technologies”. National Science Foundation (NSF), Office of International Science & Engineering (OISE). Award Number: 2246323. Award Amount: US \$298,969. Period of performance July 1, 2023 - June 30, 2026. PI: L May-Collado; Co-PI: **JCB Nunez**; Former Co-PI(s): Easton White.

7. “Characterizing the temperature-dependent allele-specific expression of inversion supergenes in seasonal *Drosophila*.” University of Vermont, College of Arts and Sciences, Small Grant Research Award (SGRA). Award Amount: US \$2,967.90, June 1, 2024 - June 30, 2026. PI: **JCB Nunez**

6. “Ontogenetically mediated selection in response to environmental heterogeneity in the acorn barnacle (*Semibalanus balanoides*)”, Doctoral Dissertation Enhancement Grant (DDEG), Brown University, Dept. of Ecology and Evolutionary Biology. US \$10,000; 2/1/2019 - 2/1/2020. PI(s) **JCB Nunez**; Co-PI: DM Rand

5. “Evolutionary Genomics of the Northern Acorn Barnacle (*Semibalanus balanoides*)”, Graduate Research Fellowship (GRFP). National Science Foundation (NSF), US \$138,000; 05/1/2015 - 05/1/2020. PI **JCB Nunez**

4. “Parallel evolution in the intertidal: investigating genetic responses to zonation”, Graduate Research Opportunities Worldwide (GROW). A joint grant from the U.S. National Science Foundation (NSF), and the Swedish Research Council (*Vetenskapsrådet*), US \$5,000 and SE kr 26,000. 7/2019 – 10/2019. PI **JCB Nunez**; Co-PI(s): DM Rand, K Johannesson and A Blomberg.

3. “Tidally-zonated polymorphisms in the northern acorn barnacle in the North Atlantic: parallel evolution or ancient polymorphism?” *Kungliga Vetenskapsakademien (KVA)* fund for internationalization and scientific renewal at the Sven Lovén Centre. The Royal Swedish Academy of Sciences, SE kr 64,100; 12/21/2018 - 12/1/2019. PI **JCB Nunez**; Co-PI: K Johannesson

2. “Evolutionary Genomics of the Mitochondrial Genome in *Fundulus*”, Small Undergraduate Research Grant Experience (SURGE). Rosenstiel School of Marine and Atmospheric Science, Amount: US \$1500; 1/20/2015 - 5/1/2015. PI **JCB Nunez**

1. “Searching for signatures of natural selection in the mitochondrial genome in *Fundulus heteroclitus*”, Small Undergraduate Research Grant Experience (SURGE). Rosenstiel School of Marine and Atmospheric Science, Amount: US \$1500; 1/20/2014 - 5/1/2014. PI **JCB Nunez**

RESEARCH GRANTS AWARDED TO MENTEES

8. “Developing a Sea Urchin Salinity-Response Phenotyping Device.” Funded by the Academic Programs For Learning and Engagement (APLE) program (2024), US \$500. Awarded to Emma Shaw at the University of Vermont.

7. “Characterizing the effect of the *In(2)l*t inversion in *Drosophila* food choice.” Funded by the Summer Undergraduate Research Fellowship (SURF) program (2024), US \$5000. Awarded to Luke Proud at the University of Vermont.
6. “Characterizing the effect of the *In(2)l*t inversion in *Drosophila* food choice.” Funded by the Kay, Klieman, and Larrabee Summer Undergraduate Research Award (2024), US \$1500. Awarded to Luke Proud at the University of Vermont.
5. “Genomic Investigation of Pleometrosis in *V. Pergandei*.” Funded by the Summer Undergraduate Research Fellowship (SURF) program (2024), US \$5000. Awarded to Miles Garvin at the University of Vermont.
4. “Effects of the Chromosomal Inversion *In(2R)NS* on Embryonic Heat Tolerance in *Drosophila*.” Funded by the Leahy Summer Award program (2024), US \$5000. Awarded to Eliza Bufferd at the University of Vermont.
3. “Quantifying settlement patterns and genetic changes across a time-series sample of the intertidal barnacle (*Semibalanus balanoides*.)” Funded by the Kay, Klieman, and Larrabee Summer Undergraduate Research Award (2024), US \$5000. Awarded to Katelyn Sullivan at the University of Vermont.
2. “Characterizing the potential of Pool-Seq data for demographic inference.” Funded by the Harrison Undergraduate Research Awards (HURA; 2022), US \$5,000. Awarded to David J. Bass. Co-mentored with Alan O. Bergland at the University of Virginia.
1. “Investigating Thermal Selection in the Mitochondria of the Northern Acorn Barnacle.” Funded by the Karen T. Romer Undergraduate Teaching and Research Awards (UTRA; 2018), US \$3,500, Awarded to David A. Ferranti. Co-mentored with David M. Rand at Brown University.

PUBLICATIONS¹

Refereed Journals (Published and Peer-Reviewed)

12. Murray C.S., Karram M., Bass D.J., Doceti M., Becker D., **Nunez J.C.B.**, Ratan A., Bergland A.O. “Balancing selection and the functional effects of shared polymorphism in cryptic *Daphnia* species.” *Molecular Ecology*, December 2024, <https://doi.org/10.1111/mec.17632>
11. **Nunez J.C.B.**, Lenhart B.A., Bangerter A., Murray C.S., Mazzeo G.R.^U, Yu Y., Nystrom T.L., Tern C., Erickson P.A., Bergland A.O., “A cosmopolitan inversion drives seasonal adaptation in overwintering *Drosophila*.” *Genetics*, Volume 226, Issue 2, February 2024, iyad207. DOI: <https://doi.org/10.1093/genetics/iyad207>
Featured as the Journal Cover of the Sep 2024 Issue (Volume 228, Issue 1)
10. Rand D. M., **Nunez J.C.B.**, Williams S., Rong S., Burley J.T., Neil K.B., Spierer A.N., McKerrow W., Johnson D.S., Raynes Y., Fayton T.J., Skvir N., Ferranti D.A.^U, Zeff M. G.^U, Lyons A.^U, Okami N.^U, Morgan D.M., Kinney K., Brown B.R., Giblin A.E., Cardon Z.G. (2023). Parasite manipulation of host phenotypes inferred from transcriptional analyses in a trematode-amphipod system. *Molecular Ecology*, DOI: <https://doi.org/10.1111/mec.17093>

¹ Underlined authors are mentees, undergraduates are indicated as ^U. Equal author contributions are indicated as ^E.

9. Barnard-Kubow K. B., Becker D., Murray C.S., Porter R., Gutierrez G., Erickson P., **Nunez J.C.B.**, Voss E., Suryamohan K., Ratan A., Beckerman A., Bergland A. O., "Genetic variation in reproductive investment across an ephemerality gradient in *Daphnia pulex*", *Molecular Biology and Evolution*, 2022; msac121, DOI: <https://doi.org/10.1093/molbev/msac121>
8. Kapun, M^E., **J. C. B. Nunez**^E, M. Bogaerts-Márquez^E, J. Murga-Moreno^E, M. Paris^E, J. Outten, M. Coronado-Zamora, C. Tern, O. Rota-Stabelli, M. P. G. Guerreiro, S. Casillas, D. J. Orengo, E. Puerma, M. Kankare, L. Ometto, V. Loeschcke, B. S. Onder, J. K. Abbott, S. W. Schaeffer, S. Rajpurohit, E. L. Behrman, M. F. Schou, T. J. S. Merritt, B. P. Lazzaro, A. Glaser-Schmitt, E. Argyridou, F. Staubach, Y. Wang, E. Tauber, S. V. Serga, D. K. Fabian, K. A. Dyer, C. W. Wheat, J. Parsch, S. Grath, M. S. Veselinovic, M. Stamenkovic-Radak, M. Jelic, A. J. Buendía-Ruiz, M. J. Gómez-Julián, M. L. Espinosa-Jimenez, F. D. Gallardo-Jiménez, A. Patenkovic, K. Eric, M. Tanaskovic, A. Ullastres, L. Guio, M. Merenciano, S. Guirao-Rico, V. Horváth, D. J. Obbard, E. Pasyukova, V. E. Alatortsev, C. P. Vieira, J. Vieira, J. R. Torres, I. Kozeretska, O. M. Maistrenko, C. Montchamp-Moreau, D. V. Mukha, H. E. Machado, A. Barbadilla, D. Petrov, P. Schmidt, J. Gonzalez, T. Flatt and A. O. Bergland (2021). "Drosophila Evolution over Space and Time (DEST) - A New Population Genomics Resource." *Molecular Biology and Evolution*, msab259, DOI: <https://doi.org/10.1093/molbev/msab259/>. **Featured as the Journal Cover of the Feb 2022 Issue (Volume 39, Issue 2)**
7. **Nunez J.C.B.**, Rong S., [Ferranti D.A.](#)^U, Damian-Serrano A., Neil K.B., Glenner H., Elyanow R.G., Brown B.R.P., Rosenblad M.A., Blomberg A., Johannesson K., and Rand D.M. (2021) 'From tides to nucleotides: genomic signatures of adaptation to environmental heterogeneity in barnacles.' *Molecular Ecology*, DOI: <https://doi.org/10.1111/mec.15949>
6. **Nunez J.C.B.**, Rong S., Damian-Serrano A., Burley J.T., Elyanow R.G., [Ferranti D.A.](#)^U, Neil K.B., Glenner H., Rosenblad M.A., Blomberg A., Johannesson K., Rand D.M. (2020) "Ecological load and balancing selection in circumboreal barnacles", *Molecular Biology and Evolution*, msaa227, DOI: <https://doi.org/10.1093/molbev/msaa227>
5. **Nunez J.C.B.**, Flight P.A., Neil K.B., Rong S., Ericksson L.A., [Ferranti D.A.](#)^U, Rosenblad M.A., Blomberg A., Rand D.M. (2020) "Footprints of natural selection at the mannose-6-phosphate isomerase locus in barnacles." *Proc Natl Acad Sci USA*. 201918232. DOI: www.pnas.org/cgi/doi/10.1073/pnas.1918232117. Media coverage: [News from Brown: Barnacles offer genetic clues on how organisms adapt to changing environments \(Mar 2020\)](#); [Brown University Kudos \(Feb 2020\)](#); [NSF YouTube channel: How do barnacles survive environmental changes?](#)
4. Brown B.R.P., **Nunez J.C.B.**, Rand D.M. (2020) 'Characterizing the cirri and gut microbiomes of the intertidal barnacle *Semibalanus balanoides*.' *anim microbiome* 2, 41. DOI: <https://doi.org/10.1186/s42523-020-00058-0>
3. **Nunez J.C.B.**, Biancani L., Flight P.A., Rand D.M., Crawford D.L., and Oleksiak M.F. (2018) 'Stable genetic structure and connectivity in pollution-adapted and nearby pollution-sensitive populations of *Fundulus heteroclitus*.' *Royal Society Open Science* (5): 171532. DOI: <http://dx.doi.org/10.1098/rsos.171532>.
2. **Nunez J.C.B.** and Oleksiak M.F. (2016) 'A Cost-Effective Approach to Sequence Hundreds of Complete Mitochondrial Genomes'. *PLoS ONE* 11(8): e0160958. DOI: <https://doi.org/10.1371/journal.pone.0160958>.

1. **Nunez J.C.B.^E**, Seale T.P.^E, Fraser M.A.^E, Burton T.L.^E, Fortson T.N.^E, Hoover D., Travis J., Oleksiak M.F., Crawford D.L. (2015) 'Population Genomics of the Euryhaline Teleost *Poecilia latipinna*'. *PLoS ONE* 10(9): e0137077. DOI: <https://doi.org/10.1371/journal.pone.0137077>.

Chapters in Books (Published, Not Peer-Reviewed)

1. **Nunez J.C.B.**, Elyanow R.G., Ferranti D.A.^U, Rand D.M., 'Population Genomics and Biogeography of the Northern Acorn Barnacle (*Semibalanus balanoides*) using Pooled-Sequencing Approaches.' In *Population Genomics: Marine Organisms Series*, edited by Marjorie Oleksiak and Om Rajora, Springer, Cham. DOI: https://doi.org/10.1007/13836_2018_58.

Submitted works, Preprints, and Technical Notes (Not Published, Not Peer-Reviewed, or under Peer-Review)

3. **Nunez J. C. B.^E**, Coronado-Zamora M.^E, Gautier M., Kapun M., Steindl S., Ometto L., Hoedjes K. M., Beets J., Wiberg R.A.W., Mazzeo G.R., Bass D. J., Radionov D., Kozerecka I., Zinchenko M., Protsenko O., Serga S., Amor-Jimenez C., Casillas S., Sanchez-Gracia A., Patenkovic A., Glaser-Schmitt A., Barbadilla A., Buendia-Ruiz A. J., Bertelli A.C., Kiss B., Önder B.S., Roldán-Matrín B., Wertheim B., Deschamps C., Arboleda-Bustos C.E., Tinedo C., Feller C., Schlötterer C., Lawler C., Fricke C., Vieira C.P., Obbard D.J., Orengo D., Vela D., Amat E., Loreto E., Kerdaffrec E., Mitchell E.D., Puerma E., Staubach F., x Camus F., Colinet H., Hrcek J., Sørensen J.G., Abbott J., Torro J., Parsch J., Vieira J., Olmo J.L., Khfif K., Wojciechowski K., Madi-Ravazzi L., Kankare M., Schou M.F., Ladoukakis M., Gomez-Julian M.J., Espinosa-Jimenez M.L., Garcia-Guerreiro M.P., Parakatselaki M-E., Veselinovic M.S., Tanaskovic M., Stamenkovic-Radak M., Paris M., Pascual M., Ritchie M.G., Rera M., Jelić M., Ansari M.H., Rakic M., Merenciano M., Hernandez N., Gora N., Rode N., Rota-Stabelli O., Sepulveda P., Gibert P., Carazo P., Kohlmeier P., Erickson P.A., Vitalis R., Torres R., Guirao-Rico S., Ramos-Onsins S.E., Castillo S., Paulo T.F., Tyukmaeva V., Alonso Z., Alatortsev V., Pasyukova E., Mukha C., Petrov D., Schmidt P., Flatt T.^E, Bergland A. O.^E, and Gonzalez J.^F. Footprints of worldwide adaptation in structured populations of *D. melanogaster* through the expanded DEST 2.0 genomic resource. *Molecular Biology and Evolution* (**submitted**). Preprint available in *bioRxiv*: <https://doi.org/10.1101/2024.11.10.622744>

2. Price D.K., West K., Cevallos-Zea M., Cahan S.H., **Nunez, J.C.B.**, Longman E.K., Mederios M.J., Yew J.Y. Microbiome composition shapes temperature tolerance in a Hawaiian picture-winged *Drosophila*. *Journal of Experimental Biology*. Special Issue: The Integrative Biology of the Gut (**submitted**).

1. **Nunez, J.C.B.**, Paris M., Machado H., Bogaerts M., Gonzalez J., Flatt T., Coronado M., Kapun M., Schmidt P., Petrov D., Bergland A. (2021). "Note: Updating the metadata of four misidentified samples in the DrosRTEC dataset." *bioRxiv* 2021.01.26.428249. This is a technical note. DOI: <https://doi.org/10.1101/2021.01.26.428249>

AWARDS & ACCOLADES

Accolades

- 2023 Elected co-chair of the 2025 *Gordon Research Seminar* on Ecological and Evolutionary Genomics
- 2022 Future Faculty Program, University of Vermont (UVM)
- 2022 DeLill Nasser Award, The Genetics Society of America (GSA)
- 2015 Honors in Marine Science, University of Miami

- 2014 Honorable Mention, Goldwater scholarship competition, Barry M. Goldwater Foundation
- 2013 Honors in Biology, Miami Dade College

Scholarships

- 2014 Rosenstiel School General Scholarship, University of Miami
- 2013 *Phi Theta Kappa* (ΦΘΚ) Presidential Scholarship, University of Miami
- 2012 SIGMA Scholarship, National Science Foundation & Miami Dade College,
James M. Ragen Jr. Scholarship, Miami Dade College

ACADEMIC PRESENTATIONS

Invited Talks

- 2025: University of North Carolina at Charlotte, Larry Mays Seminar in Bioinformatics, Department of Bioinformatics and Genomics, NC, USA (*upcoming*).
European *Drosophila* Population Genomics Consortium, 15th annual conference, Lisbon, Portugal
- 2024: University at Buffalo, Chromosomal Inversions Seminar, Dept. of Biology, NY, USA (Virtual)
European *Drosophila* Population Genomics Consortium, 14th annual conference, Barcelona, Spain
University of Vermont, Henderson-Harris Public Lecture to the College of Arts and Sciences, VT, USA
- 2022: University of Oregon, Institute of Ecology and Evolution, OR, USA
University of Virginia, Department of Biology, EEB seminar, VA, USA
- 2021: European *Drosophila* Population Genomics Consortium, 11th annual conference, Virtual due to COVID
Miami Dade College, STEM ARCOS Program, Keynote, Virtual due to COVID
- 2020: University of Virginia, Department of Biology, EEB seminar, VA, USA
- 2019: University of Gothenburg, *Tjärnö* Marine Laboratory, Sweden
University of Gothenburg, Department of Chemistry and Molecular Biology, Sweden
University of Vermont, Department of Biology, VT, USA

Contributed Abstracts (T = Talk; P = Poster)

- 2024: T: 'Climate change and overwintering bottlenecks shape standing genetic variation in temperate fruit flies'
2024 Evolution Meeting (Montreal, Canada)
- T: 'Modeling rapid evolution to disease in a changing world (*Trainee talk* – A. McCracken).' 2024 Evolution Meeting (Montreal, Canada)
- T: 'Balancing selection and the functional effects of shared polymorphism in cryptic *Daphnia* species.'
2024 Evolution Meeting (Montreal, Canada)

- P: 'Genetic Variation in Heat Tolerance within the *Drosophila melanogaster* Genomic Reference Panel (DGRP; *Trainee Poster – E. Bufferd*)'. 2024 Evolution Meeting (Montreal, Canada)
- P: 'Genomic Investigation of Social Behavior in *Veromessor Pergandei* (*Trainee Poster – M. Garvin*)'. 2024 Evolution Meeting (Montreal, Canada)
- P: 'Characterizing the feeding preference of DGRP lines of *Drosophila* (*Trainee Poster – L. Proud*)'. 2024 Evolution Meeting (Montreal, Canada)
- P: 'DEST 2.0: An Expanded Genomic Resource Reveals New Insights on Fly Phylogeography and Adaptation' TAGC: The Allied Genomics Conference (Washington DC, USA)
- 2023: P: 'A chromosomal Inversion facilitates seasonal adaptation in *Drosophila*' Gordon Research Conference and Seminar (GRC/GRS): Ecological & Evolutionary Genomics (Rhode Island, USA).
- 2022: T: 'The not-so-secret life of flies: seasonal cycles of boom-and-bust demography drive evolution in *Drosophila*. Evolution meeting (Ohio, USA).
- T: 'Do supergenes mediate seasonal adaptation in overwintering *Drosophila*?' 63rd *Drosophila* Research Conference (California, USA).
- 2019: P: 'From classic allozymes to whole genomes: characterizing the genetic basis of adaptation to heterogeneous environments in intertidal barnacles.' Gordon Research Conference and Seminar (GRC/GRS): Ecological & Evolutionary Genomics (New Hampshire, USA).
- T: 'Ecological genetics of a classic allozyme polymorphism: *Mpi* in intertidal barnacles.' Evolution meeting (Rhode Island, USA).
- 2018: T: 'Natural selection shapes functional genetic variation at intertidal microhabitats in the Northern Acorn Barnacle'. Marine Evolution 2018 (Strömstad, Sweden)
- T: 'Ecological Genomics of microhabitat adaptations in the Northern Acorn Barnacle'. Annual Binghamton University Biology Department Symposium (NY, USA).
- 2017: T: 'Ecological genomics of thermal adaptation: Genome wide screens in acorn barnacles reveal multiple loci responding to thermal gradients at tidal microhabitats.' Gordon Research Conference and Seminar (GRC/GRS): Ecological & Evolutionary Genomics (Maine, USA)
- 2016: P: 'Transatlantic population genomics of the northern acorn barnacle (*Semibalanus balanoides*): a comparison of F_{ST} outliers using different reference assemblies.' Evolution meeting (Texas, USA).
- P: 'Populations of *Fundulus heteroclitus* adapted to pollution show high levels of genetic diversity'. RI NSF EPSCoR Research Symposium (Rhode Island, USA)
- 2015: T: 'Genetic Variation in Mitochondrial Genomes from Populations of *Fundulus heteroclitus* Distributed Along a Thermal Cline', Society of Integrative and Comparative Biology (Florida, USA).
- 2014: P: 'Mitochondrial Genomes and Oxidative Phosphorylation from Populations of *Fundulus heteroclitus* Distributed Along a Thermal Cline', American Physiological Society (California, USA).

TEACHING

Instructor of Record:

Population Genetics (BIOL 4260), University of Vermont. 30 Undergraduate Students (4 credits). Offered Spring 2025; Course website: <https://www.jcbnunez.org/biol4260>

Foundations of Quantitative Reasoning (BIOL 6210), University of Vermont. 15 Graduate Students (3 credits). Offered Fall 2024, Spring 2024; Course website: <https://www.jcbnunez.org/biol6210>

Graduate Seminars in Biology (BIOL 6990), University of Vermont. 15 Graduate Students (3 credits). Offered Spring 2024; Course website: <https://www.jcbnunez.org/biol6990>

Evolutionary Biology (BIOL 1305), University of Vermont. 40 Undergraduate Students (3 credits). Offered 2023 Fall; Course website: <https://www.jcbnunez.org/biol1305>

Evolutionary Genomics (BIOL 4585), University of Virginia. 10 Undergraduate Students (3 credits). Offered Winter (J-term) 2022; Course website: <https://www.jcbnunez.org/biol4585j>

Teaching Assistantships:

Evolutionary Biology (2015-2018, BIOL 0480), Brown University. 60-80 students (undergraduate credit).

Biostatistics (2017, BIOL 0495), Brown University. 40 students (undergraduate credit)

MENTORING AND SUPERVISION

Research Staff:

Katie Ann Bora (2024-Present), Laboratory Manager and Research Technician, University of Vermont

Ethan Picpican (2025-Present), Laboratory Staffer, University of Vermont

Graduate trainees:

Andrew McCracken (2023-Present), Ph.D. candidate in Biology, University of Vermont. Project: *Evolutionary genomics of purple urchins* (Co-supervised with Melissa Pespeni).

Undergraduate trainees:

Thomas Boland (2025-present), B.S. student Biology, University of Vermont. Project: *TBD*

Devon Michaelson (2024-present), B.S. student Biology, University of Vermont. Project: *Characterizing the impact of genetic variation in a temperature-dependent feeding switch in Drosophila* (Co-supervised with Molly Stanley).

Olin King (2024-present), B.S. student Biology, University of Vermont. Project: *The role of Wolbachia in embryonic thermal tolerance in D. melanogaster* (Co-supervised with Brent Lockwood).

Emma Shaw (2023-present), B.S. student Biology (**CAS Honors Thesis**), University of Vermont. Project: *Ecological physiology of green sea urchins.*

Luke Proud (2023-present), B.S. student Biology (**CAS Honors Thesis**), University of Vermont. Project: *Characterizing the role of the cosmopolitan inversion *In(2L)t* on thermally dependent food-choice behaviors of *Drosophila melanogaster** (Co-supervised with Molly Stanley).

Eliza Bufferd (2023-present), B.S. student Biology (**CALS Honors Thesis**), University of Vermont. Project: *Characterizing the role of the cosmopolitan inversion *In(2R)NS* in embryonic thermal tolerance of *Drosophila melanogaster** (Co-supervised with Brent Lockwood).

Miles Garvin (2023-present), B.S. student Biology, University of Vermont. Project: *Characterizing the role of epigenetic methylation in barnacle zonation* (Co-supervised with Sara Helms Cahan).

Giovanni Mazzeo (2023-present), B.S. student Mathematical and Biology, University of Virginia (Supervisor: Alan Bergland). Project: *Assessing the role of chromosomal inversion in relatedness matrices in selection inference.*

Katelyn Sullivan (2023-2024), B.S. student Biology, University of Vermont. Project: *Settlement dynamics in barnacles.*

Jake Bair (2023-2024), B.A. student Biology, University of Vermont. Project: *Bioinformatic analyses of the *Ir94e* gene in *Drosophila*.*

David J. Bass (2022-2023), B.S. Statistics, University of Virginia (Supervisor: Alan Bergland). Project: *Developing a framework for demographic inference using Pool-Seq.*

David A. Ferranti (2017-2019), Sc.B. Biology, Brown University with honors (Supervisor: David M. Rand). Project: *Trans-arctic demography of the acorn barnacle.*

Other mentoring:²

Dr. Emily Longman (2024-Present; Supervised by Melissa Pespeni), Genomics of *Nucella* snails.

Dr. Daniel Sadler (2024-Present; Supervised by Melissa Pespeni), Genomics of purple sea urchins.

Graduate Committees:

Ashley Lantigua (2024-Present), PhD committee, Plant Biology (CALS), University of Vermont.

Jacqueline Guillemin (2024-Present), PhD committee, Biology (CAS), University of Vermont.

Emily Dombrowski (2024-Present), PhD committee, Biology (CAS), University of Vermont.

Megan O'Connor (2024-Present), AMP committee, Biology (CAS), University of Vermont.

SERVICE

² Refers to cases where substantial intellectual and technical guidance is provided without any formal supervisory responsibilities

*To the Profession:***Proposal review (*ad hoc* and panelist):**

1. National Science Foundation (NSF):
 - Division of Environmental Biology: *ad hoc* reviewer in 2022, 2024.
 - Division of Biological Infrastructure: panelists in 2024.
2. National Oceanic and Atmospheric Administration (NOAA):
 - Sea Grant: *ad hoc* reviewer in 2021.
3. University of Vermont (UVA), internal competitions:
 - Global Catalyst Research Partnerships: *ad hoc* reviewer in 2024.

Scientific journal review (i.e., peer review):

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| 1. <i>Science Advances</i> | 6. <i>Scientific Reports</i> |
| 2. <i>Molecular Ecology</i> | 7. <i>Biol. Journal of the Linnean Society</i> |
| 3. <i>Genetics</i> | 8. <i>Evolutionary Applications</i> |
| 4. <i>Trends in Genetics</i> | 9. <i>Peer J.</i> |
| 5. <i>Journal of Heredity</i> | 10. <i>PLoS ONE</i> |

Scientific journal pre-inquiry evaluator (short editorial inquiries):

1. *Current Biology*

Conferences and Symposia (organizer):

2025: Co-Chair of the *Gordon Research Seminar* (GRS) in Ecological and Evolutionary Genomics with Dr. Charikleia Karageorgiou. July 12 - 13, 2025, Tuscany, Italy.

To the University (University of Vermont):

2024–present Faculty Advisor, Vermont Advanced Computing Center (VACC) Advisory Committee, UVM

2024–present Faculty Advisor, Society for the Advancement of Chicanos/Hispanics and Native Americans in Science, UVM chapter, UVM

2024–present Member of the faculty affairs committee, Dept. of Biology, UVM

2024–present Leader of the UVM-GO Iceland program, Office of International Programs, UVM

2023–present Member of the media committee, Dept. of Biology, UVM

To the Community

2020–2023 Project Coordinator, Backyard Evolution Citizen Science Project, University of Virginia

2019, 2022 Mentor to undergraduate students. Undergraduate Diversity program of the Society for the Study of Evolution

- 2016–2017 Brown Junior Researcher Program (BJRP) with Boys & Girls Club of Providence, East Providence, and Providence, RI.
- 2015 SACNAS Educational Outreach Program with 1st Grade Students, Hennessey Elementary, East Providence, RI
- 2015 Invited Lecture for High School Students: The Wheeler School, Providence, RI.
- 2012–2015 Mentor for High School Students, STEM FYE program, Miami Dade College