

Holly V. Moeller

Department of Ecology, Evolution & Marine Biology
University of California, Santa Barbara, Santa Barbara, California, 93106
hvmoller@ucsb.edu +1 856 905-3244 <https://moellerlab.org/>

EDUCATION:

- 2010-2015 Ph.D., Stanford University**, Biology Department, Ecology and Evolution
The role and maintenance of diversity in a multi-partner mutualism: Trees and Ectomycorrhizal Fungi
Co-Advisors: Tadashi Fukami and Peter Vitousek
- 2008-2010 M.S., MIT/Woods Hole Oceanographic Institution**, Biological Oceanography
On the economic optimality of marine reserves when fishing damages habitat
Advisor: Michael G. Neubert
- 2004-2008 B.A., Rutgers, the State University of New Jersey**, Chemistry and Biology
Honors Thesis: *The bioenergetics of a marine ciliate, Mesodinium rubrum*
Advisor: Paul G. Falkowski

POSITIONS HELD:

- 2026-Present Professor, Department of Ecology, Evolution & Marine Biology**
- 2023-Present Associate Director, Earth Research Institute**
- 2021-Present Affiliate Faculty, Department of Mathematics**
- 2024-2026 Associate Professor, Department of Ecology, Evolution & Marine Biology**
- 2017-2024 Assistant Professor, Department of Ecology, Evolution & Marine Biology**
University of California, Santa Barbara
- 2017 Biodiversity Research Centre Postdoctoral Fellow**
University of British Columbia
- 2015-2016 NSF Postdoctoral Fellow, Biology, Woods Hole Oceanographic Institution**
Mixotrophy and the role of metabolic flexibility in community assembly and function
Co-Supervisors: Matthew D. Johnson and Michael G. Neubert
- 2014 Adjunct Lecturer, Environmental Studies & Sciences, Santa Clara University**
Instructor, Introduction to Environmental Science Lecture and Lab

PEER-REVIEWED PUBLICATIONS:

(bold = lab member; * = undergrad mentee; † = postdoc serving as senior author)

- 2026** [75] Sheu, AD*, JY Luo, KM Archibald, and HV Moeller. Mixo-COBALT: Incorporating plastic mixotrophy into a coupled biogeochemical ocean model in the Sargasso Sea. *JGR Biogeosciences* (in press).
- [74] Jacobs, JM, ZL Reitz, E Lasek-Nesselquist, A L'Etoile-Goga*, BN Sprecher, MD Johnson, and HV Moeller. Integration and regulation of stolen organelles in *Mesodinium chamaeleon*. *The ISME Journal* (in press).
- [73] Moeller, HV, E Lasek-Nesselquist, ZL Reitz, C Paight, BKB Seah, N Shaikhutdinov, EC Swart, and MD Johnson. Emergent metabolic parasitism driven by organelle sequestration. *Science Advances* (in press).
- [72] Abbott, MM, S Lipton, DD Ackerly, HV Moeller, ES Zavaleta, and BC McLaughlin. Climate change impacts on California's foundational trees: demographic shifts are already underway. *Ecosphere* 17(7): e70715.

- [71] **Pfab, F**, R Cuning, **AR Detmer**, **CF Frederica**, LJ Irving, **HV Moeller**, and RM Nisbet. A model for heat and light stress in photosynthesis. *Ecological Modelling* 519: 111631.
- [70] **Camara, AG**, **JM Jacobs**, **MA Honig**, and **HV Moeller**. Effects of mixotrophic metabolism on predation risk. *Marine Ecology Progress Series* 789: meps15173.
- [69] McLaughlin, BC, MM Abbott, S Lipton, DD Ackerly, MB Rose, **HV Moeller**, and ES Zavaleta. Adapting species risk assessments to a changing climate: the underestimated vulnerability of foundational trees. *Global Change Biology* 32(4): e70866.
- [68] **L'Etoile-Goga, A***, and **HV Moeller**. Increased prey choice is associated with higher kleptoplastidic reliance in *Mesodinium* ciliates. *Journal of Phycology* 62: 703-714.
- [67] **Detmer, AR**, CW Osenberg, AC Stier, and **HV Moeller**. Eco-evo conflicts in a stage-structured mutualism: modeling the consequences of ontogenetic variation in host quality. *Ecological Modeling* 516: 111567.
- [66] **Kaare-Rasmussen, JT***, **AR Detmer**, EM Caves¹, and **HV Moeller**¹. Seeking service: How client behavior determines cleaning station clustering. *The Journal of Theoretical Biology* 624: 112394. ¹co-senior authorship
- 2025 [65] **Archibald, KM**, S Dutkiewicz, C Laufkötter, and **HV Moeller**. Evolution promotes resilience of marine mixotrophic metabolic strategies to thermal stress. *The American Naturalist* 206(4).
- [64] **Detmer, AR**, **SD Miller**, A Dubel, K Ring, C John, CJ Briggs, A Rassweiler, and **HV Moeller**. A Busse balloon in the lagoon: herbivore behaviour generates spatial patterns in coral reef ecosystems. *Ecology Letters* 28(3): e70098.
- [63] **Moeller, HV**, **A L'Etoile-Goga***, **L Vincenzi**, **A Norlin**, **GS Barbaglia***, **GC Runte**, **JT Kaare-Rasmussen***, and MD Johnson. Retention of blue-green cryptophyte organelles by *Mesodinium rubrum* and their effect on photophysiology and growth. *Journal of Eukaryotic Microbiology* 72(2): e13066.
- [62] **Stevens, BLF**, **K Howard***, **LM Bogar**, and **HV Moeller**. Environmental fluctuations promote host reward strategies that maintain partner diversity in multispecies mutualisms. *The American Naturalist* 205(2):125-249.
- 2024 [61] **Moeller, HV**, **KM Archibald**, **SG Leles**, and **F Pfab**. Predicting optimal mixotrophic metabolic strategies in the global ocean. *Science Advances* 10(50): eadr0664.
- [60] **Pfab, F**, **AR Detmer**, **HV Moeller**, RM Nisbet, HM Putnam, and R Cuning. Heat stress and bleaching in corals: a bioenergetic model. *Coral Reefs* 43:1627-1645.
- [59] Cuning, R, SB Matsuda, E Bartels, M D'Alessandro, **AR Detmer**, P Harnay, J Levy, D Lirman, **HV Moeller**, E Muller, K Nedimyer, **F Pfab**, and HM Putnam. On the use of rapid acute heat tolerance assays to resolve ecologically relevant differences among corals. *Coral Reefs* 43:1793-1801.
- [58] **Honig, MA**, **GS Barbaglia***, **MD Doyle***, and **HV Moeller**. Effects of mixotroph evolution on trophic transfer. *Journal of Plankton Research*: fbae053
- [57] **Archibald, KM**, S Dutkiewicz, C Laufkötter, and **HV Moeller**. Emergent trade-offs among plasticity strategies in mixotrophs. *Journal of Theoretical Biology* 590:111854.
- [56] Millette, NC, **SG Leles**, MD Johnson..., and **HV Moeller**. Recommendations for advancing mixoplankton research through empirical-model integration. *Frontiers in Marine Science* 11:1392673.
- [55] **Barbaglia, GS**, **C Paight**, **MA Honig**, **R Marczak**, **M Lepori-Bui**, and **HV Moeller**. Environment-dependent metabolic investments in the mixotrophic chrysophyte

Ochromonas. *Journal of Phycology* 60: 170-184.

[54] Cook, DT, RJ Schmitt, SJ Holbrook, and **HV Moeller**. Modeling the effects of selectively fishing key functional groups of herbivores on coral resilience. *Ecosphere* 15(1): e4749.

2023

[53] **Smith, A***, **LM Bogar†**, and **HV Moeller**. Fungal Fight Club: Phylogeny and growth rate predict competitive outcomes among ectomycorrhizal fungi. *FEMS Microbiology Ecology* 99(10): fiad108. **Editor's Choice Paper**.

[52] Weverka, JR, **HV Moeller**, and JP Schimel. Chemodiversity controls microbial assimilation of soil organic carbon: A theoretical model. *Soil Biology and Biochemistry* 187: 109161.

[51] Speare, K, A Duran, MW Miller, **HV Moeller**, and DE Burkepile. Scale-dependent habitat selection by larvae of a reef-building coral. *Marine Ecology Progress Series* 724:67-79.

[50] Millette, NC, RJ Gast, JY Luo, **HV Moeller**, et al. Mixoplankton and mixotrophy: future research priorities. *Journal of Plankton Research* 45(4) 576-596.

[49] **Archibald, KM**, HM Sosik, **HV Moeller**, and MG Neubert. Predator switching strength controls stability in diamond-shaped food web models. *Journal of Theoretical Biology* 570: 111536.

[48] **Moeller, HV**, and MD Johnson. Quick Guide: *Mesodinium*. *Current Biology* 33(7): R249-R250.

[47] **Brown, AL†**, **GA Casarez*†**, and **HV Moeller**. Acquired phototrophy as an evolutionary path to mixotrophy. *The American Naturalist* 202(4): 458-470.

† denotes equal contribution by co-first authors

[46] **Chu, T***, **HV Moeller**, and **KM Archibald†**. Competition between phytoplankton and mixotrophs leads to metabolic character displacement. *Ecological Modelling* 481: 110331.

[45] **Kaare-Rasmussen, JO***, **HV Moeller**, and **F Pfab†**. Modeling food-dependent symbiosis in *Exaptasia pallida*. *Ecological Modelling* 481: 110325.

[44] **Moeller, HV**, RM Nisbet, and AC Stier. Cascading benefits of mutualists' predators on foundation species: a model inspired by coral reef ecosystems. *Ecosphere* 14(1): e4382.

[43] Johnson, MD, **HV Moeller**, **C Paight**, RM Kellogg, MR McIlvin, MA Saito, and E Lasek-Nesselquist. Functional control and metabolic integration of stolen organelles in a photosynthetic ciliate. *Current Biology* 33(5): 973-980.

[42] Wieczynski, D, **HV Moeller**, and JP Gibert. Mixotrophic microbes create carbon tipping points under warming. *Functional Ecology* (in press).

[41] Kopecky, KL, AC Stier, RJ Schmitt, SJ Holbrook, and **HV Moeller**. Material legacies can degrade resilience: Structure-retaining disturbances promote regime shifts on coral reefs. *Ecology* 104(4): e4006.

2022

[40] **Gonzalez, LM***, SR Proulx, and **HV Moeller**. Modeling the metabolic evolution of mixotrophic phytoplankton in response to rising ocean surface temperatures. *BMC Ecology and Evolution* 22: 136.

[39] **Archibald, K**, S Dutkiewicz, C Laufkotter, and **HV Moeller**. Thermal responses in global marine planktonic food webs are mediated by temperature effects on metabolism. *Journal of Geophysical Research – Oceans* 127(12): e2022JC018932.

[38] **Lepori-Bui, M**, **C Paight**, **E Eberhard**, **CM Mertz***, and **HV Moeller**. Evidence

for evolutionary adaptation of mixotrophic nanoflagellates to warmer temperatures. *Global Change Biology* 28: 7094-7107.

[37] **Paight, C**, MD Johnson, E Lasek-Nesselquist, and **HV Moeller**. Cascading effects of prey identity on gene expression in a kleptoplastidic ciliate. *Journal of Eukaryotic Microbiology* 70(1): e12940.

[36] **Brown, AL, F Pfab, EC Baxter*, AR Detmer, HV Moeller**, RM Nisbet, and R Cuning. Analysis of a mechanistic model of corals in association with multiple symbionts: Within-host competition and recovery from bleaching. *Conservation Physiology* 10(1): coac066.

[35] **Pfab, F, AL Brown, AR Detmer, EC Baxter*, HV Moeller**, R Cuning, and RM Nisbet. Timescale separation and models of symbiosis: state space reduction, multiple attractors, and initialization. *Conservation Physiology* 10(1), coac026.

[34] **Hsu, V*, F Pfab**, and **HV Moeller**. Niche expansion via acquired metabolism facilitates competitive dominance in planktonic communities. *Ecology* 103:e3693.

[33] **Detmer, AR**, R Cuning, **F Pfab, AL Brown**, AC Stier, RM Nisbet, and **HV Moeller**. Fertilization by coral-dwelling fish promotes coral growth but can exacerbate bleaching response. *Journal of Theoretical Biology* 541:111087.

[32] **Falcó, C*** and **HV Moeller**. Optimal spatial management in a multi-use marine habitat: Balancing fisheries and tourism. *Natural Resource Modeling* 35(1): e12309.

2021 [31] **Runte, GC, AH Smith*, HV Moeller**, and **LM Bogar†**. Spheres of influence: Host tree proximity and soil chemistry shape rRNA, but not DNA, communities of symbiotic and free-living soil fungi in a mixed hardwood-conifer forest. *Frontiers in Ecology and Evolution* 9: 397.

[30] **Detmer, AR***, RJ Miller, DC Reed, TW Bell, AC Stier, and **HV Moeller**. Variation in disturbance to a foundation species structures the dynamics of a benthic reef community. *Ecology* 102(5): e03304.

[29] **Hsu, V***, and **HV Moeller**. Metabolic symbiosis facilitates species coexistence and generates light-dependent priority effects. *Frontiers in Ecology and Evolution* 8: 491.

[28] **Moeller, HV, V Hsu*, M Lepori-Bui, L Mesrop, C Chinn***, and MD Johnson. Prey type constrains growth and photosynthetic capacity of the kleptoplastidic ciliate *Mesodinium chamaeleon* (Ciliophora). *Journal of Phycology* 57(3): 916-930.

2020 [27] **Bui, A, D Orr, M Lepori-Bui, K Konicek, HS Young**, and **HV Moeller**. Soil fungal community composition and functional similarity shift across distinct climatic conditions. *FEMS Microbiology Ecology* 96(12): fiae193.

[26] **Moeller, HV**, MG Neubert, and MD Johnson. Intraguild predation enables coexistence of competing phytoplankton in a well-mixed water column. *Ecology* 100 (12): e02874.

[25] Pisapia, C, PJ Edmunds, **HV Moeller**, B Riegl, M McWilliam, CD Wells, and MS Pratchett. Projected shifts in coral size structure in the Anthropocene. *Advances in Marine Biology: Population Dynamics of the Reef Crisis* 87: 31-60.

[24] Rice, MM, BL Maher, AMS Correa, **HV Moeller**, NP Lemoine, AA Shantz, DE Burkepile, and NJ Silbiger. Macroborer presence on corals increases with nutrient input and promotes parrotfish bioerosion. *Coral Reefs* 39: 409-418.

[23] Visalli, ME, BD Best, RB Cabral, ... **HV Moeller**, ... DJ McCauley. Data-driven approach for highlighting priority areas for protection in marine areas beyond national jurisdiction. *Marine Policy* 122: 103927.

- 2019** [22] **Moeller, HV**, C Laufkötter, EM Sweeney, and MD Johnson. Light-dependent grazing: A new mechanism for formation of Deep Chlorophyll Maxima. *Nature Communications* 10: 1978.
- 2018** [21] **Moeller, HV** and MD Johnson. Preferential plastid retention by the acquired phototroph *Mesodinium chamaeleon*. *Journal of Eukaryotic Microbiology* 65(2): 148-158.
- [20] Doering, GN, I Scharf, **HV Moeller***, and JN Pruitt*. Social tipping points in animal societies in response to heat stress. *Nature Ecology & Evolution* 2(8): 1298.
- *Denotes equal contribution by senior authors.
- [19] Pruitt, JN, A. Berdahl, C Riehl, N Pinter-Wollman, **HV Moeller**, et al. Social tipping points in animal societies. *Proceedings of the Royal Society B* 285(1887): 20181282.
- [18] Johnson, MD and **HV Moeller**. Mixotrophy in protists: from model systems to mathematical models. *Frontiers in Marine Science* 5: 490.
- 2017** [17] Johnson, MD, E Lasek-Nesselquist, **HV Moeller**, et al. *Mesodinium rubrum*: The symbiosis that wasn't. *PNAS* 114(7): E1040-E1042.
- 2016** [16] **Moeller, HV** and KG Peay. Competition-function tradeoffs in ectomycorrhizal fungi. *Peer J* 4:e2270.
- [15] **Moeller, HV**, IA Dickie, T Fukami, and DA Peltzer. Hierarchical neighbor effects on mycorrhizal community structure and function. *Ecology & Evolution* 6(15): 5416-5430.
- [14] Herrera, T, **HV Moeller**, and MG Neubert. High-seas fish wars generate marine reserves. *PNAS* 113(14): 3767-3772.
- [13] **Moeller, HV**, E Peltomaa, MD Johnson, and MG Neubert. Acquired phototrophy stabilizes coexistence and shapes intrinsic dynamics of an intraguild predator and its prey. *Ecology Letters* 19: 393-402.
- [12] Pedersen, E, J Marleau, M Granados, **HV Moeller**, and F Guichard. Non-hierarchical movement promotes stability and resilience in a tritrophic system. *The American Naturalist* 187(5): E116-E128.
- [11] **Moeller, HV** and MG Neubert. Multiple friends with benefits: An optimal mutualist management strategy? *The American Naturalist* 187(1): E1-E12.
- 2015** [10] **Moeller, HV**, IA Dickie, T Fukami, and DA Peltzer. Mycorrhizal co-invasion and novel interactions depend on neighborhood context. *Ecology* 96(9): 2336-2347.
- [9] **Moeller, HV** and MG Neubert. Economically optimal marine reserves without spatial heterogeneity in a simple two-patch model. *Natural Resource Modeling* 28(3): 244-255.
- [8] Wood, J, I Dickie, **HV Moeller**, D Peltzer, K Boot, G Rattray, and J Wilmshurst. Novel interactions between non-native mammals and fungi facilitate establishment of invasive pines. *Journal of Ecology* 103: 121-129.
- 2014** [7] **Moeller, HV**, KG Peay, and T Fukami. Ectomycorrhizal fungal traits reflect environmental conditions along a coastal California edaphic gradient. *FEMS Microbiology Ecology* 87(3): 797-806.
- 2013** [6] **Moeller, HV** and MG Neubert. Habitat damage, marine reserves, and the value of spatial management. *Ecological Applications* 23, 959-971.
- [5] Karp, DS, **HV Moeller**, and LO Frishkoff. Non-random extinction patterns can modulate pest-control service decline. *Ecological Applications* 23: 840-849.
- [4] Saille, SF, HW Ducklow, **HV Moeller**, WR Fraser, OME Schofield, DK Steinberg, LM Garzio, and SC Doney. Carbon fluxes and pelagic ecosystem dynamics near two western Antarctic Peninsula Adelie penguin colonies: an inverse model approach. *Marine*

Ecology Progress Series 492: 253-272.

- 2012** [3] Ducklow, H, SC Doney, ... **HV Moeller**, et al. Marine Pelagic Ecosystems: The West Antarctic Peninsula. In: Antarctic Ecosystems: An extreme environment in a changing world, 121-159.
- 2011** [2] **Moeller, HV**, MD Johnson, and PG Falkowski. Photoacclimation in the phototrophic marine ciliate, *Mesodinium rubrum* (Ciliophora). *Journal of Phycology* 47: 324-332.
- 2009** [1] Johnson, MD, J Volker, **HV Moeller**, E Laws, KJ Breslauer, and PG Falkowski. Universal constant for heat production in protists. *PNAS* 106: 6696-6699.

GRANTS AND FUNDING:

- 2026-2031** Department of Defense MURI. "MEFCON: Manipulation and Encryption of Fungal Communication Over Networks." To HV Moeller (lead PI), LM Bogar, C Davis, A Pitenis, T-Q Nguyen, and K Garcia. (\$7.5M; \$3M to UCSB)
- 2025-2027** Hypothesis Fund Seed Award. To HV Moeller. (\$150,000)
- 2024-2027** NSF Molecular and Cellular Bioscience. "Collaborative Research: Evolution of acquired phototrophy by organelle sequestration in *Mesodinium* ciliates." To MD Johnson and HV Moeller. (\$1.16M; \$493,000 to UCSB)
- 2023-2028** NSF Biological Oceanography. "CAREER: How do mixotroph phenotypic plasticity and evolution constrain climate feedbacks?" To HV Moeller. (\$1,104,048)
- Army Institute for Collaborative Biotechnologies. "Identifying microbial networks for signal detection and propagation." To HV Moeller. (\$892,000)
- 2023-2027** NSF Environmental Biology. "Collaborative Research: Metabolic Bet-Hedging as a mechanism for the maintenance of fungal diversity in tree-ectomycorrhizal mutualisms." To HV Moeller (lead PI), LDL Anderegg, and LM Bogar. (\$1.33M; \$838,678 to UCSB).
- 2022-2026** NSF Biological Oceanography. "Collaborative Research: Community structure of marine macroalgae: a trait-based approach." To PI RJ Miller (HV Moeller co-PI). (\$1,180,593)
- 2020-2023** Simons Foundation Early Career Investigator in Marine Microbial Ecology and Evolution. (\$666,000)
- 2020-2022** Army Institute for Collaborative Biotechnologies. "Effects of plastid acquisition on toxin production in marine food chains." To HV Moeller. (\$194,000)
- 2019-2025** NSF Emerging Frontiers. "Collaborative Research: URoL : Epigenetics 2: Predicting phenotypic and eco-evolutionary consequences of environmental-energetic-epigenetic linkages." PI: H Putnam; Co-PIs: HV Moeller, R Nisbet, R Cunning, S Roberts, J Eirin-Lopez (\$2,998,175)
- NSF Biological Oceanography. "BEE: Testing the evolutionary response of mixotrophs to future ocean conditions." To HV Moeller. (\$536,087)
- Hellman Faculty Fellowship (\$35,000)
- 2018-2023** Army Institute for Collaborative Biotechnologies. "Harnessing acquired metabolism in microbial systems." To HV Moeller. (\$332,511)
- 2017-2019** Norma J. Lang Early Career Fellowship from the Phycological Society of America. "Quantifying niche partitioning along an acquired phototrophy gradient." To HV Moeller. (\$9,826)
- 2017** WHOI Coastal Oceans Institute / Ocean Life Institute Grant 22443.01. "Dynamic bioeconomic models of marine reserves when fishing damages habitat." To MG Neubert and HV Moeller (\$44,904)

- University of British Columbia Biodiversity Research Centre Postdoctoral Fellowship (\$110,000)
- 2016-present** Department of Energy Joint Genome Institute CSP17 503035. “The role of acquired phototrophy in phytoplankton blooms: Insights from the *Mesodinium rubrum* genome.” To MD Johnson et al. (HV Moeller led writing)
- 2015-2016** NSF Postdoctoral Research Fellowship in Biology Grant DBI- 401332. “Mixotrophy and the role of metabolic flexibility in community assembly and function.” (\$138,000)
- Woods Hole Oceanographic Institution Postdoctoral Scholarship (\$88,250; declined)
- 2013** Achievement Rewards for College Scientists Fellowship (\$24,000)
- 2012** NSF Doctoral Dissertation Improvement Grant (\$15,000)
- 2009** NSF Graduate Research Fellowship (\$121,500)
- 2008** MIT Linden Earth Systems Fellowship (\$10,000)
- 2007** NSF Research Experience for Undergraduates Fellow, University of Alaska Southeast, Juneau Campus. Advisors: Matt Heavner and Eran Hood.
- 2004** Rutgers University Merit Award (\$96,000)

INVITED PRESENTATIONS:

- 2026 Moeller, HV.** Santa Fe Institute Seminar Series. 28 April. Santa Fe, NM, USA.
- Moeller, HV.** How (can) photosymbioses become permanent? Innovations and limitations in kleptoplastidic systems. Protistology Open (Meeting of the International Society of Protistologists); Invited Symposium. 19 April. Prague, Czechia.
- 2025 Moeller, HV.** Trade, Borrow, or Steal: How Acquired Metabolism Drives Evolution. Simons Foundation Presidential Lecture Series. 19 November. New York, NY, USA.
- Moeller, HV.** Bodega Bay Marine Lab Seminar, University of California, Davis. 17 September. Bodega Bay, CA, USA.
- Moeller, HV.** How do cell size and metabolism scale as mixotrophs evolve to rising ocean temperatures? Company of Biologists “Why Are Cells the Size They Are?” Workshop. 13-16 July. Buxted Park, East Sussex, UK.
- Moeller, HV.** The *Mesodinium* genus of ciliates as a model system for complex endosymbiosis. EPFL Latsis Symposium. 9 July. Lausanne, Switzerland.
- Moeller, HV.** Trade, Borrow, or Steal: Understanding the Acquisition of Metabolism with the Tools of Ecology, Mathematics, and Chemistry. Jean Day Memorial Lecture (keynote at annual undergraduate award ceremony), Department of Chemistry and Chemical Biology, Rutgers University. 2 May. New Brunswick, NJ, USA.
- 2024 Moeller, HV.** Marine and Environmental Biology Section Seminar, University of Southern California. 17 September. Los Angeles, CA, USA.
- Moeller, HV.** All Mixed Up: How Mixotroph Adaptations Alter Planktonic Communities. Marine Microbes Gordon Research Conference. 9 June. Les Diablerets, Switzerland.
- Moeller, HV.** Department of Ecology and Evolutionary Biology Seminar, University of Arizona. 22 April. Tucson, AZ, USA.
- Moeller, HV.** Department of Ecology, Evolution and Behavior Seminar, University of Minnesota. 27 March. Minneapolis, MN, USA.
- Moeller, HV.** Microbiology and Immunology Department Seminar, University of British

Columbia. 11 March. Vancouver, BC, Canada.

Moeller, HV. Combining math and experiments to understand acquired metabolism. International Initiative for Theoretical Ecology Webinar. 5 March. (virtual)

2023 Moeller, HV. Basic Science Seminar in Biochemistry, UCSF. 26 September. San Francisco, CA, USA.

Moeller, HV. All Mixed Up: Can mixotroph traits predict future function? Trait-Based Approaches Meeting. Copenhagen, Denmark. 15 August.

Moeller, HV. Trade, Borrow, or Steal: How acquired metabolism creates ecological opportunity and fuels evolutionary innovation. University of Texas, Austin. 13 February.

Moeller, HV. Trade, Borrow, or Steal: How acquired metabolism creates ecological opportunity and fuels evolutionary innovation. Institute of Biodiversity and Ecosystem Dynamics, University of Amsterdam. 26 January. (virtual)

2022 Moeller, HV. Evolutionary transitions from heterotrophy to phototrophy: The *Mesodinium* genus. EMBO Comparative Genomics of Unicellular Eukaryotes: Interactions and Symbioses, Sant Feliu de Guixols, Spain. 13 September.

2021 Moeller, HV. The ecological and evolutionary consequences of acquired metabolism. W. K. Kellogg Biological Station, Michigan State University. 17 September.

Moeller, HV. The ecological and evolutionary consequences of acquired metabolism. University of Alabama. 1 November. (virtual)

2020 Moeller, HV. Trade, Borrow, or Steal: How acquired metabolism fuels ecological opportunity and evolutionary innovation. University of British Columbia Biodiversity Research Centre. 9 December. (virtual)

Moeller, HV. Trade, Borrow, or Steal: How acquired metabolism shapes ecological communities. Drexel University. 8 October. (virtual)

Moeller, HV. Jacks of All Trades or Masters of None: Mixotrophy in the global ocean. Rutgers University. 21 September. (virtual)

Moeller, HV. Modeling Complex Endosymbiosis: Empirical and mathematical studies of the genus *Mesodinium*. Norma J. Lang Lecture, Phycological Society of America Annual Meeting. 29 July. (virtual)

Moeller, HV. Jacks of All Trades or Masters of None: How diverse mixotroph strategies shape current and future oceans. Scripps Institute of Oceanography. 27 May. (virtual)

2019 Moeller, HV. Acquired metabolism, ecological opportunity, and evolutionary innovation. UCLA. 16 October. Los Angeles, CA, USA.

Moeller, HV. When bad partners do good: Maintenance of partner quality variation in multispecies mutualism. Evolution Meeting (T806). 23 June. Providence, RI, USA.

Moeller, HV. How acquired metabolism fuels ecological opportunity and evolutionary innovation. University of Nebraska-Lincoln. 18 April. Lincoln, NE, USA.

Moeller, HV. Trade, Borrow, or Steal: How acquired metabolism fuels ecological opportunity and evolutionary innovation. California State University, Northridge. 5 April. Northridge, CA, USA.

2018 Moeller, HV. Smearing the Niche: Acquired metabolism, ecological opportunity, and evolutionary innovation. Gordon Conference: Unifying Ecology Across Scales. 25 July. Biddeford, ME, USA.

Moeller, HV. Mixotrophic modulators of the surface ocean. University of Southern California.

6 March. Los Angeles, CA, USA.

- 2017 Moeller, HV.** Trade, Borrow, or Steal: Acquired metabolism and evolutionary innovation. University of California, Riverside. 5 October. Riverside, CA, USA.

Moeller, HV and MG Neubert. Acquired metabolism as an evolutionary path to mixotrophy. ICMA-VI. 21 October. Tucson, AZ, USA.

Moeller, HV and MG Neubert. Acquired Metabolism: An evolutionary pathway to mixotrophy? Ecological Society of America Annual Meeting, OOS 44-6. 11 August. Portland, OR, USA.

Moeller, HV. Tree-ectomycorrhizal symbioses: Does diversity confer function? Canadian Society for Ecology & Evolution Meeting. 8 May. Victoria, BC, Canada.

Moeller, HV. Trade, borrow, or steal: How acquired metabolism confers phenotypic plasticity. 13th Annual Early Career Scientists Symposium: Ecology and Evolutionary Biology of Phenotypic Plasticity. University of Michigan. 11 March. Ann Arbor, MI, USA.

- 2016 Moeller, HV.** Optimizing fisheries management: Habitat damage, marine reserves and the value of spatial knowledge. University of Maine. 14 October. Orono, ME, USA.

Moeller, HV. Mixotrophic Modulators of the Biological Pump. Ocean Carbon Biogeochemistry Summer Workshop. 25 July. Woods Hole, MA, USA.

Moeller, HV. Trade, Borrow, or Steal: Acquired metabolism in community ecology. University of California, Berkeley. 10 February. Berkeley, CA, USA.

Moeller, HV. Trade, Borrow, or Steal: Acquired metabolism in community ecology. University of California, Santa Barbara. 21 January. Santa Barbara, CA, USA.

- 2015 Moeller, HV.** Trade, Borrow, or Steal: Acquired metabolism in community ecology. Georgia Institute of Technology. 3 December. Atlanta, GA, USA.

Moeller, HV. Trade, Borrow, or Steal: Acquired metabolism in community ecology. Vanzant Seminar Series, Rice University. 19 November. Houston, TX, USA.

Moeller, HV. Trade, Borrow, or Steal: Acquired metabolism in community ecology. University of Pennsylvania. 5 November. Philadelphia, PA, USA.

Moeller, HV. The role and maintenance of diversity in a multi-partner mutualism. Biology Department Seminar Series, Woods Hole Oceanographic Institution. 2 April. Woods Hole, MA, USA.

Moeller, HV. Habitat damage, marine reserves, and the value of spatial knowledge. School for Marine Science & Technology Seminar Series, University of Massachusetts, Dartmouth. 18 February. Fairhaven, MA, USA.

- 2013 Moeller, HV, MG Neubert.** Optimal investment in a multi-mutualist system: Trees and ectomycorrhizal fungi. Oral Presentation: American Mathematical Society Joint Meeting, 1086-92-1753. San Diego, CA, USA.

- 2012 Moeller, HV, and MG Neubert.** Accounting for habitat damage increases the economic optimality of marine reserves. Oral Presentation: American Mathematical Society Joint Meeting, 1077-92-2201. Boston, MA, USA.

- 2010 Moeller, HV, and MG Neubert.** On the economic optimality of marine reserves when fishing damages habitat. Biology Department Seminar Series, Woods Hole Oceanographic Institution. August. Woods Hole, MA, USA.

CONTRIBUTED PRESENTATIONS:

- 2024 Moeller, HV, MD Doyle, and F Pfab.** “Functional” Functional Responses: Consequences of

- and improvements to the accuracy of predator parameter estimates. Ecological Society of America Annual Meeting, Long Beach, CA, USA.
- 2023 Moeller, HV**, K Klitgaard, and LM Bogar. Leaky or loyal? Bet-Hedging investment strategies in multispecies mutualisms. Ecological Society of America Annual Meeting, Portland, OR, USA.
- Moeller, HV**, K Archibald, G Barbaglia, L Gonzalez, M Honig, S Leles, M Lepori-Bui, R Marczak, F Pfab, and SR Proulx. All Mixed Up: How metabolic tradeoffs and synergies shape mixotrophs' evolutionary responses to climate change. American Society of Naturalists Meeting, Asilomar, CA, USA.
- 2022 Moeller, HV**, K Archibald, G Barbaglia, L Gonzalez, M Honig, S Leles, M Lepori-Bui, R Marczak, F Pfab, and SR Proulx. All Mixed Up: How metabolic tradeoffs and synergies shape mixotrophs' evolutionary responses to climate change. Ecological Society of America Annual Meeting, Montreal, QC, Canada.
- Moeller, HV**, K Archibald, G Barbaglia, L Gonzalez, S Leles, M Lepori-Bui, R Marczak, F Pfab, and SR Proulx. All Mixed Up: Quantifying mixotroph metabolic tradeoffs to improve predicted responses to ocean warming. Ocean Sciences Meeting, February, Virtual.
- 2020 Moeller, HV**, M Lepori-Bui, and C Laufkötter. Do mixotrophs modulate a positive climate feedback loop? Modeling the evolutionary responses of mixotrophs to future ocean conditions. Ocean Sciences Meeting (OB41A-04). 20 February. San Diego, CA, USA.
- 2019 Moeller, HV**, MD Johnson, and MG Neubert. Trait-based evolution of acquired phototrophs: New models for complex endosymbiosis. 4th Trait Based Approaches Workshop. 20 August. Buckinghamshire, UK.
- 2018 Moeller, HV** and MD Johnson. The *Mesodinium* genus as a model for secondary endosymbiosis. Joint Phycological Society of America/International Society of Protistology Meeting. 31 July. Vancouver, BC, Canada.
- Moeller, HV**, C Laufkötter, EM Sweeney, Y Shaked, and MD Johnson. A new hypothesis for Deep Chlorophyll Maximum formation: Light-dependent grazing. Ocean Sciences Meeting, MM14A-1421. 13 February. Portland, OR, USA.
- 2016 Moeller, HV**, E Peltomaa, MD Johnson, and MG Neubert. Acquired phototrophy stabilizes coexistence and shapes intrinsic dynamics in planktonic communities. Poster Presentation: Ocean Sciences Meeting, PP24B-0557. 23 February. New Orleans, LA, USA.
- Moeller, HV**, E Peltomaa, MD Johnson, and MG Neubert. Merging models and data to understand acquired phototroph blooms. Poster Presentation: EMBO-EMBL Symposium on A New Age of Discovery for Aquatic Microeukaryotes. 27 January. EMBL, Heidelberg, Germany.
- 2015 Moeller, HV**, MD Johnson, and MG Neubert. Acquired phototrophs as mediators of planktonic community dynamics. Poster Presentation: OCB Trait-Based Approaches to Ocean Life Workshop. 5 October. Waterville Valley, NH, USA.
- Moeller, HV**, E Lasek-Nesselquist, and MD Johnson. Regulation of acquired metabolic potential by the marine ciliate *Mesodinium rubrum*. Oral presentation: Ecological Society of America Annual Meeting, COS 72-1. 12 August. Baltimore, MD, USA.
- Moeller, HV**, and MG Neubert. Accounting for habitat damage increases the economic optimality of marine reserves. Oral Presentation: MPE 2013+ Workshop on Natural Resources. 5 June. Howard University, Washington, D.C., USA.
- 2014 Moeller, HV**, and MG Neubert. Optimal investment in a multi-mutualist system: Trees and ectomycorrhizal fungi*. Oral Presentation: Ecological Society of America Annual Meeting,

COS 139-10. Sacramento, CA, USA.

**Awarded the Volterra Prize for Best Student Talk in Mathematical Ecology*

- 2013 Moeller, HV**, IA Dickie, DA Peltzer, and T Fukami. Novel fungal partnerships highlight host flexibility in the New Zealand Douglas-fir invasion. Oral Presentation: Ecological Society of America Annual Meeting, COS 93-3. Minneapolis, MN, USA.

Moeller, HV. Optimal investment in a multi-mutualist system: Trees and ectomycorrhizal fungi. Oral Presentation: AARMS Math Biology Workshop. July. St. John's, NFLD, Canada.

Moeller, HV. Accounting for habitat damage increases the economic optimality of marine reserves. Oral Presentation: AARMS Workshop on the Sustainability of Aquatic Ecosystem Networks. 24 October. Fredericton, NB, Canada.

- 2012 Moeller, HV**, KG Peay, and T Fukami. Turnover in the ectomycorrhizal fungal community along a soil age gradient. Oral Presentation: Ecological Society of America Annual Meeting, COS 66-2. Portland, OR, USA.

- 2010 Moeller, HV**, and MG Neubert. The role of marine reserves in optimal harvesting when fishing damages habitat. Oral Presentation: Ecological Society of America Annual Meeting, COS 22-5. Pittsburgh, PA, USA.

- 2007** Heavner, MJ, DR Fatland, **HV Moeller**, E Hood, and MS Schultz. Sensor webs in digital earth. Poster: American Geophysical Union Fall Meeting, Session II. San Francisco, CA, USA.

NON-TECHNICAL PUBLICATIONS and PRESENTATIONS:

- 2024** "Applied math education can make Americans more numerically literate." **Newsweek**. 6 September.

- 2018** "Trade, Borrow, or Steal: How Life Exceeds its Metabolic Potential." Public Talk, Santa Barbara Museum of Natural History Science Pub Night, Santa Barbara, 8 October 2018.

- 2017** "Trade, Borrow, or Steal: How Life Exceeds its Metabolic Potential." Public Talk, Café Scientifique Vancouver, 28 March 2017.

- 2015** Guest columnist, **Millennium Assessment of Humans and the Biosphere Blog**

- 2007-2015** "**Seeing Green**" Columnist, The Stanford Daily, The MIT Tech, the Rutgers Daily Targum, examples online at: www.stanforddaily.com/author/hollymoeller/

**Winner of the 2014 California Journalism Awards Katharine M. Macdonald Student Award and the 2013 Stanford Daily William F. Woo Prize.*

- 2012** "Future depends on long-term planning," **San Francisco Chronicle**, 12 October.

"Say, Don't Spray," collected in **Real Science Writing**, 6th Edition.

"Species count down at Stanford's Lake Lagunita as dry spring drives species away," **Peninsula Press**, 23 May.

"Noise pollution drives birds out of their homes, study shows," **Peninsula Press**, 7 May.

TEACHING and MENTORING EXPERIENCE:

Postdoctoral Scholars Supervised:

Dr. Laura Bogar, 2019-2022; NSF Postdoctoral Fellow; current Assistant Professor, UC Davis

Dr. Alexandra Brown, 2019-2022; current Postdoctoral Researcher, UC Berkeley

Dr. Ferdinand Pfab, 2020-present

Dr. Christopher Paight, 2020-2023; current Research Scientist, Naval Health Research Center

Dr. Kevin Archibald, 2020-2024; Simons Foundation Postdoctoral Fellow; current AAAS Fellow, National Science Foundation

Dr. Suzana Leles, 2021-2025; Simons Foundation Postdoctoral Fellow; current Assistant Professor,
University of Texas Marine Station
Dr. Zach Reitz, 2023-present
Dr. Bethany Stevens, 2023-present; Simons Foundation Postdoctoral Fellow
Dr. Scott Miller, 2023-present
Dr. Clarissa Frederica, 2025-present; Moore Foundation Postdoctoral Fellow

Graduate Students Mentored:

An Bui, M.Sc., 2020
Michelle Lepori-Bui, NSF Graduate Fellow, M.Sc. 2022
Gabe Runte, M.Sc., 2022; Ph.D., 2025
A. Raine Detmer, NSF Graduate Fellow, Ph.D., 2025
Jazmín Sedano, M.Sc. in progress
Samantha Jerry, NSF Graduate Fellow, Ph.D. in progress
Marcus Varni, UCSB Chancellor's Fellow, Ph.D. in progress
Jonas Larson, UCSB Chancellor's Fellow, Ph.D. in progress

Undergraduates Directly Advised:

Veronica Hsu, 2017-2021 (2 first-author papers); Goldwater Scholar; Ph.D. student at Harvard
Grace Casarez, 2018-2021 (1 co-first-author paper); M.S. in Applied Math from Stanford
Carles Falcó i Gandia, 2018-2019 (1 first-author paper); Ph.D. student at Oxford
Logan Gonzalez, 2018-2020 (1 first-author paper); NSF Graduate Fellow (2023); Ph.D. student at Rutgers
Kristen Klitgaard, 2019-2020; research scientist at BeeFlow
A. Raine Detmer, 2019-2020 (1 first-author paper); current Ph.D. student at UCSB
Ethan Baxter, 2020-2023; current Ph.D. student in Applied Math at Northwestern
Jagger Joyner, 2020-2022; botanist at Santa Barbara Botanical Garden
Alex Smith, 2020-2021 (1 first-author paper); M.S. in Biology from CU Denver (2023)
Congyi Zeng, 2020-2022; MS in Bioinformatics from Yale
Tianyi Chu, 2021-2022 (1 first-author paper); MS in Bioinformatics from Yale
Gina Barbaglia, 2021-2023 (1 first-author paper; 2 co-authored papers); PA degree in progress, Stanford
Jennifer Gladstone, 2021-2022
Blake Bradfield, 2021-2022
Jakob Kaare-Rasmussen, 2022-2024 (1 first-author paper); ESA Lotka Prize for Best Poster (2022); current
Ph.D. student in Population Biology at UC Davis
Josephine Kaminaga, 2022-2023
Sophia Mirrashidi, 2022-2023
Alan Sheu, 2022-present (1 first-author paper submitted)
Maggie Doyle, 2023-2024 (2 co-authored papers)
Jonatan Kaare-Rasmussen, 2023-present (1 co-authored paper, 1 first-author paper)
Amelie L'Etoile-Goga, 2023-present (1 co-authored paper, 1 first-author paper)
Jessilin Lee, 2024
Vela Reynolds, 2025-present; College of Creative Studies Summer Research Fellow
Maritza Ramos Leon, 2025; FUERTE Equity Fellow
Avalon Keane, 2025-2026
Jules Weinberg, 2026
William Wallius, 2026

Courses Taught at UC Santa Barbara:

MATH 34LA-LB: Calculus for the Life Sciences, 2025-present. New course series developed to improve equitable math education for first-year biology undergraduates.
EEMB 92: Applying Mathematics in the Life Sciences, 2023-2024. Special instruction and support for 20 first-year students from historically minoritized and underrepresented backgrounds.
EEMB 120: Introduction to Ecology, 2018-present. 120 students, upper division lecture course.
EEMB 179: Ecological Modeling, 2019-present. 75 students, upper division lecture & lab course.

EEMB 595CA: Construction and Analysis of Ecological Models, 2020-present. 15 graduate students, guided independent modeling course.
 EEMB 507: Introduction to Graduate Research. 2022-present. 15-20 graduate students.
 EEMB 508/509: Foundations of Ecology and Evolution. 2018-present. 15-20 graduate students.

Additional Teaching Experience:

Santa Fe Institute Complexity Science Summer School, Guest Lecturer, Santa Fe, NM, USA, 2023, 2025
 “Stories Numbers Tell” K-12 Teacher Training, Santa Barbara, CA, USA, 2025

HONORS AND AWARDS:

<i>Scholarship</i>	Ecological Society of America Early Career Fellow (2023) Rollie F. Lambertson Award for Best Theory Paper (2017) ESA Math Ecology Section Volterra Prize for Best Student Talk (2014) Frances Lou Kallman Award for Graduate Student Excellence (2014) Barry M. Goldwater Scholarship (2007-2008) Peter F.E. Marapodi Scholarship (2005-2008) Phyllis Dunbar Award for Excellence in Physical Chemistry (2006) Croda Award for Outstanding Organic Chemistry Laboratory Student (2006) National Starch Award for General Academic Excellence (2005) Phi Beta Kappa (2006) National Society for Collegiate Scholars (2005) Dean’s Award for Co-Curricular Excellence (2004, 2005) IBM Thomas J. Watson Memorial Scholar (2004-2008) Robert C. Byrd Scholarship (2004-2008) National Merit Scholar (2004)
<i>Journalism</i>	Public Voices Fellow of UC Santa Barbara (2024) California Journalism Awards Katherine M. Macdonald Student Award (2014) William F. Woo Award for Best Opinion Columnist (2013)
<i>Teaching</i>	Margaret T. Getman Service to Students Award Nominee (2025-2026) EEMB GSAC Teaching Recognition Award (2025-2026) Academic Senate Distinguished Teaching Award Nominee (2024-2025) Stanford University Excellence in Teaching Award (2011)

PROFESSIONAL SERVICE and OUTREACH:

2024-present	Associate Editor, <i>The American Naturalist</i>
2023-present	Associate Director, Earth Research Institute, UC Santa Barbara
2021-2023	Co-Chair, Mixotrophs & Mixotrophy Working Group Ocean Carbon and Biogeochemistry Program
2021-22	Chair, Theoretical Ecology Section, Ecological Society of America
2020-21	Vice-Chair, Theoretical Ecology Section, Ecological Society of America
2016-present	Member and scientific advisor, National Network of Ocean and Climate Change Interpreters: Central California Regional Study Circle
2016	Classroom guest instructor, Biology, Cape Cod Academy (9 th grade)
2015-2016	Postdoctoral Representative, WHOI Gender Equity Committee President and Biology Representative, WHOI Postdoctoral Association
2015	Guest instructor, Ecology, Woods Hole Summer Science School (10-year-olds)
2014	Featured guest, Goggles Optional podcast, Episode 13: The secret life of fungi
2013-2014	Graduate Voice and Influence Program, Stanford University

	Graduate Student Peer Mentor, Stanford University
2010-2012	Eco-Evo Lunch Seminar Series Coordinator, Stanford University
2007-2008	President, Phi Lambda Upsilon Chemistry Honors Society, Rutgers University Undergraduate representative, Rutgers Executive Dean Search Committee
Ad-hoc reviewer	Grants: NSF, NSERC, DOD; approx.. 5-7 reviews per year Papers: <i>Acta Oecologica</i> ; <i>The American Naturalist</i> ; <i>Biological Invasions</i> ; <i>Current Biology</i> ; <i>Ecology</i> ; <i>Ecology Letters</i> ; <i>Ecosystems</i> ; <i>Ecological Applications</i> ; <i>FEMS Microbiology Ecology</i> ; <i>Frontiers in Microbiology</i> ; <i>Fungal Ecology</i> ; <i>Harmful Algae</i> ; <i>Journal of Plankton Research</i> ; <i>Journal of Theoretical Biology</i> ; <i>Marine Ecology Progress Series</i> ; <i>Molecular Ecology</i> ; <i>New Phytologist</i> ; <i>PNAS</i> ; <i>Symbiosis</i> ; <i>Trees: Structure and Function</i>

PROFESSIONAL DEVELOPMENT and WORKSHOP PARTICIPATION

2010-present	Participant and (since 2016) Co-Leader and Faculty Mentor, Annual Math Ecology Retreats (2 per year; one at UMass Nantucket Field Station in October or November, and one at UCSB Sedgwick Reserve in February or March.) <i>Workshop for graduate students and postdocs to generate and analyze new mathematical models.</i>
2026	Participant, US/UK Forum on Ocean Tipping Points, London, UK. 19-21 May. Mentor, Theory-Data Workshop, University of Nebraska, Lincoln. 13-18 May.
2024	Public Voices Fellow, University of California Santa Barbara
2020	Participant, MicroEuks National Conference. 8-10 June.
2017	Participant, Pan-microbial Trait Ecology investigative workshop. NIMBioS, University of Tennessee, Knoxville, TN, USA. 14-16 June.
2016	Participant, Game Theoretic Modeling Tutorial. NIMBioS, University of Tennessee, Knoxville, TN, USA. 25-27 April. Science Fellow, National Network for Ocean and Climate Change Interpretation, Spring 2016 Study Circle A. Participant, EMBO-EMBL Symposium: A New Age of Discovery for Aquatic Microeukaryotes. EMBL Heidelberg, Germany. 26-29 January.
2015	Participant, OCB: Trait-Based Approaches to Understanding Marine Life Workshop, Waterville Valley, NH, USA. 5-8 October. Participant, MPE 2013+ Workshop on Natural Resources. Howard University, Washington, D.C., USA. 4-6 June.
2013-2014	Inaugural class, Graduate Voice and Influence Program. Stanford University. <i>Workshop series on causes of and solutions for gender inequality in academia.</i>
2013	Participant, AARMS Mathematical Biology Workshop. Memorial University, Newfoundland, St. John's, Newfoundland, Canada. 27-29 July. Participant, AARMS-CRM Workshop on Sustainability of Aquatic Ecosystem Networks. Fredericton, New Brunswick, Canada. 22-25 October.
2011	Student, Functioning of Boreal Forest Ecosystems Ph.D. course. SLU, Umeå, Sweden. 4-10 June. Student, Joint MBI-NIMBioS-CAMBAM Summer Graduate Program: Mathematical Ecology and Evolution. Mathematical Biosciences Institute, Columbus, Ohio, USA. 25

July-5 August.

2009 Student, Tutorial in Optimal Control Theory. NIMBioS, University of Tennessee, Knoxville, Tennessee, USA. 21-23 November.

2007 NSF Research Experience for Undergraduates Fellow. University of Alaska, Southeast. June-August.