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## ACADEMIC APPOINTMENTS

| | |
|---|---|
| 2015-current | ASSISTANT PROFESSOR, Department of Biology, University of Hawai'i at Mānoa |
| 2012-2015 | ASSISTANT PROFESSOR, Department of Biology, University of South Dakota |
| 2009-2012 | ASSISTANT RESEARCH SCIENTIST, Department of Biological Sciences, University of Maryland Baltimore County |
| 2005-2009 | POSTDOCTORAL RESEARCHER, University of Maryland Baltimore County. Advisor: Dr. Thomas Cronin; Project*: "Opsin Evolution in Stomatopod Crustaceans: Molecular Investigations of a Complex Visual System"* |

## EDUCATION

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|---|---|
| 2005 | PH.D. BRIGHAM YOUNG UNIVERSITY; Advisor: Dr. Keith Crandall. Dissertation Title: *"Crustacean Phylogenetic Systematics and Opsin Evolution"* |
| 1999 | M.S. UNIVERSITY OF CINCINNATI; Advisor: Dr. Thomas Kane (deceased). Thesis Title: *"Energetics of Sulfidic Karst Ecosystems"* |
| 1996 | B.A. WITTENBERG UNIVERSITY; Advisor: Dr. Horton H. Hobbs, III. Major: Biology, emphasis aquatic ecology; Honors Thesis Title: '*Population studies of an undescribed species of* Crangonyx *in Dillion Cave, Orange County, Indiana, USA*' |

## PUBLICATIONS - *PEER REVIEWED*

*(h-index = 23; i10-index = 38)*

1. **Porter, M.L**., M. Steck*, V. Roncalli, & P.H. Lenz (IN PRESS) Molecular characterization of copepod photoreception. *Biological Bulletin* (* M.S. student; invited submission for virtual symposium on 'New insights from genetic datasets on the function and evolution of visual systems').
2. Morehouse, N.I., E. Bushbeck, D. Zurek, M. Steck*, and **M.L. Porter** (IN PRESS) Molecular evolution of spider vision: New opportunities, familiar players. *Biological Bulletin* (* M.S. student; invited submission for virtual symposium on 'New insights from genetic datasets on the function and evolution of visual systems').

3. Bok, M.J., **M.L. Porter**, H.A. ten Hove, R. Smith, & D.-E. Nilsson (IN PRESS) Radiolar eyes of serpulid worms (Annelida, Serpulidae): Structures, function, and phototransduction. *Biological Bulletin* (invited submission for virtual symposium on 'New insights from genetic datasets on the function and evolution of visual systems').
4. Bok, M.J., **M.L. Porter**, & D.-E. Nilsson (2017) Phototransduction in fan worm radiolar eyes. *Current Biology* 27(14): pR698-R699. (cover article)
5. Niemiller, M.L., **M.L. Porter**, J. Keany, H. Gilbert, D.W. Fong, D.C. Culver, C.S. Hobson, K. D. Kendall, M.A. Davis, & S.J. Taylor (2017) Evaluation of eDNA for groundwater invertebrate detection and monitoring: a case study with endangered *Stygobromus* (Amphipoda: Crangonyctidae). *Conservation Genetics Resources* doi:10.1007/s12686-017-0785-2.
6. **Porter, M.L.,** N.W. Roberts, & J.C. Partridge (2016) Evolution under pressure and the adaptation of visual pigment compressibility in deep-sea environments. *Molecular Phylogenetics and Evolution* 105:160-165.
7. **Porter, M.L.** (2016) Beyond the eye: Molecular evolution of extraocular photoreception. *Integrative and Comparative Biology* 52(5):842-852.
8. **Porter, M.L.** (2016) Collecting and processing mysids, stygiomysids, and lophogastrids. *Journal of Crustacean Biology* 36(4):592-595.
9. Battelle, B.-A., J.F. Ryan, K.E. Kempler, S.R. Saraf, C.E. Marten, W.C. Warren, P. Minx, M.J. Montague, P.J. Green, S.A. Schmidt, L. Fulton, N.H. Patel, M.E. Protas, R.K. Wilson, & **M.L. Porter** (2016) Opsin repertoire and expression patterns in horseshoe crabs: Evidence from the genome of *Limulus polyphemus* (Arthropoda: Chelicerata). *Genome Biology and Evolution* 8(5):1571-1589. doi:10.1093/gbe/evw100.
10. Bok, M.J., **M.L. Porter**, T.W. Cronin (2015) Ultraviolet filters in stomatopod crustaceans: diversity, ecology, and evolution. *Journal of Experimental Biology.* 218(13):2055-2066. doi:10.1242/jeb.122036.
11. Meland, K, J. Mees, **M.L. Porter**, & K.J. Wittmann (2015) Taxonomic review of the orders Mysida and Stygiomysida (Crustacea, Peracarida). *PLoS One* 10(1): e0124656. doi: 10.1371/journal.pone.0124656.
12. Speiser, D.I., M.S. Pankey, A.K. Zaharoff, B.-A. Battelle, H.D. Bracken-Grissom, J.W. Breinholt, S.M. Bybee, T.W. Cronin, A. Garm, A.R. Lindgren, N.H. Patel, **M.L. Porter**, M.E. Protas, A.S. Rivera, J.M. Serb, K.S. Zigler, K.A. Crandall, and T.H. Oakley (2014) Using phylogentically-informed annotation (PIA) to search for light-interacting genes in transcriptomes from non-model organisms. *BMC Bioinformatics* 15:350 (doi:10.1186/s12859-014-0350).
13. **Porter, M.L.**, L. Suarez, A. Kingston, C. Hofmann, E. Cameron, R. McCready, T.W. Cronin, & P.R. Robinson (2014) Characterization of visual pigments, oil droplets, lens and cornea in the whooping crane *Grus americana. Journal of Experimental Biology* 217(21):3883-3890.
14. How, M.J.*, **M.L. Porter***, A.N. Radford, K.D. Feller, S.E. Temple, R.L. Caldwell, N.J. Marshall, T.W. Cronin, and N.W. Roberts (2014) Out of the blue: The evolution of horizontally polarized signals in *Haptosquilla* (Crustacea, Stomatopoda, Protosquillidae). *Journal of Experimental Biology* 217:3425-343. (cover article; * co-first authors)
15. Roberts, N.W., M.J. How, **M.L. Porter**, S.E. Temple, R.L. Caldwell, S.B. Powell, V. Gruev, N.J. Marshall, and T.W. Cronin (2014) Animal polarization imaging and implications for optical processing. *Proceedings of the IEEE* 102(10):1427-1434. (cover article)

16. Bok, M.J., **M.L. Porter**, A.R. Place, and T.W. Cronin (2014) Biological sunscreens tune polychromatic ultraviolet vision in mantis shrimp. *Current Biology* 24:1636-1642.

17. Feller, K.D., T.W. Cronin, S.T. Ahyong, and **M.L. Porter** (2013) Morphological and molecular description of the late-stage larvae of *Alima* Leach, 1817 (Crustacea: Stomatopoda) from Lizard Island, Australia. *Zootaxa* 3722:22-32.

18. **Porter, M.L.,** D.I. Speiser, A.K. Zaharoff, R.L. Caldwell, T.W. Cronin, and T.H. Oakley (2013) The evolution of complexity in the visual systems of stomatopods: Insights from transcriptomics. *Integrative and Comparative Biology* 53(1):39-49. (cover article)

19. Engel, A.S., L. Johnson, & **M.L. Porter** (2013) Arsenite oxidase gene diversity among *Chloroflexi* and *Proteobacteria* from El Tatio Geyser Field, Chile. *FEMS Microbiology Ecology* 83:745-756. doi: 10.1111/1574-6941.12030.

20. **Porter, M.L.**, J.R. Blasic, M.J. Bok, E.G. Cameron, T. Pringle, T.W. Cronin, & P.R. Robinson (2012) Shedding new light on opsin evolution. *Proceedings of the Royal Society B* 279:3-14.

21. Breinholt, J.W., **M.L. Porter**, & K.A. Crandall (2012) Testing phylogenetic hypotheses of the subgenera of the freshwater crayfish genus *Cambarus* (Decapoda: Cambaridae). *PLoS ONE* 7(9): e46105. doi:10.1371/journal.pone.0046105.

22. Roberts[1], N., **M.L. Porter**[1], & T.W. Cronin (2011) Molecular mechanisms of polarization sensitivity. *Philosophical Transactions of the Royal Society of London B* 366:627-637 (invited paper for special issue on the polarization of light; 1 – co-first authored).

23. Zagmajster, M., **M.L. Porter**, & D.W. Fong (2011) Freshwater hydrozoans in caves with reports on new records. *Speleobiology Notes* 3:4-10.

24. **Porter, M.L**., Y.F. Zhang, S. Desai* R.L. Caldwell, & T.W. Cronin (2010) Evolution of anatomical and physiological specialization in the compound eyes of stomatopod crustaceans. *Journal of Experimental Biology* 213:3473-3486. (cover article; *undergraduate student).

25. Cronin, T.W., **M.L. Porter**, M.J. Bok, J.B. Wolf, & P.R. Robinson (2010) The molecular genetics of colour and polarization vision in stomatopod crustaceans. *Ophthalmic and Physiological Optics* 30:460-469.

26. Katti, C., K. Kempler, **M. Porter**, A. Legg, R. Gonzalez, E. Garcia-Rivera, D. Dugger, & B.-A. Battelle (2010) Opsin co-expression in *Limulus* photoreceptors: Differential regulation by light and a circadian clock. *Journal of Experimental Biology* 213:2589-2601.

27. Northup, D.E., J.R. Snider, M.N. Spilde, **M.L. Porter**, J.L. van de Kamp, P.J. Boston, & A.M. Nyberg (2010) Diversity of rock varnish bacterial communities from Black Canyon, New Mexico. *Journal of Geophysical Research* 115: G02007, doi:10.1029/2009JG001107.

28. **Porter, M.L**., M.J. Bok, P.R. Robinson, & T.W. Cronin (2009) Molecular diversity of visual pigments in Stomatopoda (Crustacea). *Visual Neuroscience*, 26:255-265.

29. Frank, T.M., **M.L. Porter**, & T.W. Cronin (2009) Spectral sensitivity, visual pigments, and screening pigments in two life history stages of the ontogenetic migratory *Gnathophausia ingens*. *Journal of the Marine Biological Association UK*. 89:119-129.

30. **Porter, M.L.** & A.S. Engel (2009) Productivity-diversity relationships from chemolitho-autotrophically based sulfidic karst systems. *International Journal of Speleology*. 38:27-40.

31. Engel, A.S., D.B. Meisinger, **M.L. Porter**, R.A. Payn, M. Schmid, L.A. Stern, K.H. Schleifer, & N.M. Lee (2009) Linking phylogenetic and functional diversity to nutrient spiraling in microbial mats from Lower Kane Cave (USA). *ISME Journal.* 4:98-110.

32. **Porter, M.L.**, & A.S. Engel (2008) Diversity of uncultured *Epsilonproteobacteria* from terrestrial sulfidic caves and springs. *Applied & Environmental Microbiology*. 74:4973-4977.
33. **Porter, M.L.**, K. Meland, & W. Price (2008) Global diversity of mysids (Crustacea-Mysida) in freshwater. *Hydrobiologia*. 595:213-218.
34. Cronin, T.W. & **M.L. Porter** (2008) Exceptional variation on a common theme: The evolution of crustacean compound eyes. *Evolution: Education and Outreach.* 1:463-475.
35. **Porter, M.L**., T.W. Cronin, D.A. McClellan, & K.A. Crandall (2007) Molecular characterization of crustacean visual pigments and the evolution of pancrustacean opsins. *Molecular Biology and Evolution* 24:253-268.
36. **Porter, M.L.** (2007) Subterranean biogeography: What have we learned from molecular techniques? *Journal of Cave and Karst Studies*. 69:179-186.
37. **Porter, M.L.**, K. Dittmar de la Cruz, & M. Pérez-Losada (2007) How long does evolution of the troglomorphic form take? Estimating divergence times in *Astyanax mexicanus*. *Acta Carsologica* 36: 173-182.
38. Pérez-Losada, M., **M.L. Porter**, L. Tazi, & K.A. Crandall (2007) New methods for inferring population dynamics from microbial sequences. *Infection, Genetics and Evolution* 7:24-43.
39. Campbell, B.J., A.S. Engel, **M.L. Porter**, & K. Takai (2006) The versatile *Epsilon-proteobacteria*: Key players in sulphidic habitats. *Nature Reviews Microbiology* 4:458-468.
40. Dittmar, K., **M.L. Porter**, S. Murray, & M.F. Whiting (2006) Molecular phylogenetic analysis of nycteribiid and streblid batflies (Diptera:Brachycera:Calyptratae): Implications for host associations and phylogeographic origins. *Molecular Phylogenetics & Evolution* 38:155-170.
41. **Porter, M.L.,** M. Pérez -Losada, & K.A. Crandall (2005) Model-based multi-locus estimation of decapod phylogeny and divergence times. *Molecular Phylogenetics & Evolution* 37:355-369.
42. Taylor*, S.D., K. Dittmar de la Cruz, **M.L. Porter**, & M.F. Whiting (2005) Characterization of the long-wavelength opsin from Mecoptera and Siphonaptera: Does a flea see? *Molecular Biology and Evolution* 22:1165-1174. (* undergraduate student)
43. Jokela-Määttä, M., J. Pahlberg, M. Lindström, P. Zak, **M.L. Porter**, T. Cronin, M. Ostrovskii, & K. Donner (2005) Visual pigment absorbance and spectral sensitivity of *Mysis relicta* species group (Crustacea, Mysida) in different light environments. *Journal of Comparative Physiology A* 191:1087-1097.
44. Dittmar, K., **M.L. Porter**, L. Price, & G. Svenson (2005) A brief survey of invertebrates in caves of peninsular Malaysia. *Malaysian Nature Journal* 57:1-12.
45. Engel, A.S., **M.L. Porter**, L.A. Stern, S. Quinlan*, & P.C. Bennett (2004) Bacterial diversity and ecosystem function of filamentous microbial mats from aphotic (cave) sulfidic springs dominated by chemolithoautotrophic "*Epsilonproteobacteria*". *FEMS Microbiology Ecology* 51:31-53. (* undergraduate student)
46. **Porter, M.L.** & K.A. Crandall (2003) Lost along the way: The significance of evolution in reverse. *Trends in Ecology and Evolution* 18:541-547.
47. Engel, A.S., N. Lee, **M.L. Porter**, L.A. Stern, P.C. Bennett, & M. Wagner (2003) Filamentous '*Epsilonproteobacteria'* dominate microbial mats from sulfidic cave springs. *Applied and Environmental Microbiology* 69:5503-5511.

48. Pérez-Losada, M., C.G. Jara, G. Bond-Buckup, **M.L. Porter**, & K.A. Crandall (2002) Phylogenetic position of the freshwater Anomuran family Aeglidae. *Journal of Crustacean Biology* 22:670-676.
49. Engel, A.S., **M.L. Porter**, B.K. Kinkle, & T.C. Kane (2001) Ecological assessment and geological significance of microbial communities from Cesspool Cave, Virginia. *Geomicrobiology Journal* 18:259-274.

## PUBLICATIONS - *CHAPTERS*

1. Iwanicki, T.*, T. Frank, & **M.L. Porter** (**IN PRESS**) Bioluminescence: Cell Physiology, Diversity, and New Evolutionary Insights. *In*: Cell Physiology Sourcebook 5th Edition. (*Ph.D. student)
2. McDonald, M.* & **M.L. Porter** (**IN PRESS**) Photoreceptor Physiology. *In:* Cell Physiology Sourcebook 5th Edition. (*Ph.D. student)
3. Cronin, T.W., & **M.L. Porter**. The evolution of invertebrate photopigments and photoreceptors (2014) *In:* Evolution of Visual and Non-visual Pigments (D.M. Hunt et al. eds.), Springer, New York, pp. 105-135 (doi: 10.1007/978-1-4614-4355-1_4).
4. Lee, N.M., W. Liebl, A.S. Engel, & **M.L. Porter** (2014) Cave Biofilm Metagenomics. *In*: Encyclopedia of Metagenomics, Springer, New York, pp.1-10. (doi:10.1007/978-1-4614-6418-1_718-2).
5. Lee, N.M., D.B. Meisinger, R. Aubrecht, L. Kovacik, C. Saiz-Jimenez, S. Baskar, R. Baskar, W. Liebl, **M.L. Porter**, & A.S. Engel (2012) Caves and karst environments. *In:* Life at Extremes: Environments, Organisms and Strategies for Survival (Ed. E.M. Bell), CAB International, pp. 320-344.
6. Pérez-Losada, M., **M.L. Porter**, R.P. Viscidi, & K.A. Crandall (2011) Multilocus sequence typing of pathogens. *In:* Genetics and Evolution of Infectious Diseases (ed. M. Tibayrenc), Elsevier Publishing, pp.503-522.
7. **Porter, M.L.** & T.W. Cronin (2009) A shrimp's eye view of evolution: How useful are visual characters in decapod phylogenetics? *In:* Crustacean Issues (eds. J.W Martin, K.A. Crandall, & D.L. Felder), CRC Press, pp.183-196.
8. Crandall, K.A., **M.L. Porter**, & M. Pérez-Losada (2009) Decapod crustaceans (Decapoda). *In*: The Timetree of Life. (eds. S.B. Hedges & S. Kumar), Oxford University Press. pp.293-297.
9. Cronin, T.W., & **M.L. Porter** (2009) Visual system: Invertebrates. *In:* Encyclopedia of Neuroscience (L.R. Squire, editor), Academic Press, Oxford. Vol.10:351-358.
10. Pérez-Losada, M., **M.L. Porter**, & K.A. Crandall (2008) Methods for analyzing viral evolution. *In*: Plant Virus Evolution (ed. M.J. Roossinck). Springer-Verlag Berlin, pp:165-204.
11. Patek, S.N., R.M. Feldmann, **M.L. Porter**, & D. Tshudy (2006) Phylogeny and Evolution. *In*: Lobsters: Biology, Management, Aquaculture and Fisheries. (ed. B.F. Phillips). Blackwell Publishing, pp:113-145.

## MANUSCRIPTS – *SUBMITTED & IN PREPARATION*

1. Bilandžija, H., M. Laslo, **M.L. Porter,** & D. Fong. *IN REVIEW*. Melanization in response to wounding is ancestral in arthropods and conserved in albino cave species. *Scientific Reports* (ref. no. SREP-17-37312).

2. Palecanda, S.*, K.D. Feller, T.W. Cronin, & **Porter, M.L.** *IN PREP*. Genetic diversity of larval stomatopods from the Lizard Island, Australia reef platform. for *Biological Conservation*. (* M.S. student)
3. Steck, M. & **Porter, M.L**. *IN PREP*. Opsin expression in larval versus adult retinas of *Alima pacifica* (Crustacea, Stomatopoda) for *Journal of Experimental Biology*
4. **Porter, M.L.**[1], H. Awata[1], M.J. Bok, & T.W. Cronin. *IN PREP*. Exceptional diversity in opsin expression in retinas of the stomatopod crustacean *Neogonodactylus oerstedii*. for *Vision Research.* (1 - co-first authors)

## PUBLICATIONS - *NON PEER-REVIEWED*

1. Fong, D.W., **M.L. Porter**, & M.E. Slay (2012) Cave Life of the Virginias: A field guide to commonly encountered species. 41 pgs.
2. **Porter, M.L.** & T.W. Cronin (2009) Evolution of mantis shrimp vision. *Kagaku*. 660-666.
3. **Porter, M.L.** & A.S. Engel (2009) Balancing the conservation needs of sulphidic caves and karst with tourism, economic development, and scientific study. *Cave & Karst Science*, 35:19-24.
4. Whiting, D.G., Q. Snell, R. Nichols, **M.L. Porter**, K. Tew, K.A. Crandall, M.F. Whiting, & M. Clement (2004) Complex performance analysis through statistical experimental design: An evaluation of parameters associated with speed in parallel phylogenomics. Hawaii International Conference on Computer Science.
5. Stern, L., A.S. Engel, P.C. Bennett, & **M.L. Porter** (2002) Subaqueous and subaerial speleogenesis in a sulfidic cave. Karst Waters Institute Special Publication 7: Hydrogeology and Biology of Post-Paleozoic Carbonate Aquifers: pp.89-91.
6. **Porter, M.L**. & H.H. Hobbs III (1997) Population studies of an undescribed species of *Crangonyx* in Dillion Cave, Orange County, Indiana, USA (CRUSTACEA:AMPHIPODA: CRANGONYCTIDAE). Karst Waters Institute Special Publication 3: *Conservation and Protection of the Biota of Karst*: pp.67-68.
7. **Porter, M.L (**1995) Comparative study of amphipod (*Synurella dentata*) and isopod (*Lirceus fontinalis*) population densities in two temperate cold-water springs, Greene County, Ohio. *Pholeos* 15(2):23-28.

## RESEARCH GRANT SUPPORT

2017 **PI, NSF EPSCoR proposal**; *RII Track-4: Enhancing interdisciplinary graduate studies and research funding opportunities in sensory neurobiology through studies of crustacean vision* ($137,490).

2015 **PI, NSF DEB collaborative proposal;** *Use it AND lose it: Evoutionary trends and ecological drivers of eye reduction in bat flies (Hippoboscoidea).* With K. Dittmar, University of Buffalo ($350,597).

2015 **PI, NSF DEB collaborative proposal;** *The evolution of bioluminescence and light detection in marine deep sea shrimp (Oplophoridae).* With H. Bracken-Grissom, Florida International University, and T. Frank, Nova Southeastern University ($210,646).

2015 **PI, American Philosophical Society Research Grant;** *The evolution of color signals in stomatopod crustaceans*. ($4000)

2015 **PI, Cave Conservancy Foundation;** with PIs M. Slay, The Nature Conservancy, and M. Niemiller, University of Illinois. *Conservation assessment of Ozark crangonyctid amphipods within the subterranean genus* Stygobromus. ($8,070)

2014 **PI, Friends of the Capital Crescent Trail;** eDNA Research on the Groundwater Amphipods *Stygobromus hayi*, *S. kenki*, and *S. sextarius* in Southern Montgomery County, Maryland ($20,023)

2013 **PI, Cave Conservancy of the Virginias Grant;** with PIs M. Niemiller, University of Kentucky and M. Slay, The Nature Conservancy. *Conservation assessment of crangonyctid amphipods within the subterranean genus* Stygobromus *of the Virginias.* ($15,600)

2012 **PI, Cave Conservancy of the Virginias Grant;** PI, M. Slay, The Nature Conservancy. *Cave Biodiversity Education: Publication of a Regional Field Guide for the Cave Animals of the Virginias*. ($20,400)

2010 **Senior Personnel, National Science Foundation Grant**; T.H. Oakley & K.A. Crandall, PIs. *Developing genomic tools for integrative biology research* (money available for transcriptome sequencing of stomatopod retina).

2007 **Named postdoctoral researcher, National Science Foundation Grant**; T.W. Cronin, PI (IOS 0721608). *Opsin evolution in stomatopod crustaceans: Molecular investigations of a complex visual system* ($275,000).

2003 **National Park Service Research Grant.** *Microbiological Survey of Timpanogos Cave National Monument, Utah* ($8,560)

2002 **National Park Service Research Grant**. *Microbiological Survey of Halliday's Deep Cave, Great Basin National Park, Nevada* ($2,400)

2002 **Doctoral Dissertation Improvement Grant, National Science Foundation**. *Opsin Evolution in Mysid Shrimp: A Model for Spectral Tuning* ($9,800)

2001 **Cave Conservancy Foundation Karst Graduate Fellowship**. *Cave Organisms and the Evolution of Visual Pigments: Mysid Shrimp as Model Organisms* ($15,000)

2001 **Cave Research Foundation Grant**. *Cave Organisms and the Evolution of Visual Pigments: Mysid Shrimp as Model Organisms* ($1,000)

1999 **Sigma Xi Grant-in-aid of Research.** *Understanding Chemoautotrophically-based Ecosystem Energetics by Quantifying Assimilation Efficiencies* ($900)

1999 **Ralph W. Stone Research Award.** *Estimating Assimilation Efficiencies: The Missing Piece to Understanding Energy Flow in Chemoautotrophic Ecosystems* ($1,500)

1998 **National Speleological Society Research Grant.** *Evaluation of Subsurface Microbial Productivity: Placing Movile Cave in Context with Similar Subterranean Systems* ($350)

1998 **Harry L. Weimann Summer Research Grant, Univ. of Cincinnati**. *Assessment of Sulfide-oxidizing Microbial Communities and Subsurface Productivity via a Physicochemical Model* ($900)

1997 **Harry L. Weimann Summer Research Grant, University of Cincinnati**. *Assimilation Efficiency Estimation for two Invertebrate Grazers of Chemoautotrophic Bacteria* ($900)

1996 **National Speleological Society Research Grant**. *Estimation of Genetic Variance and Population Size for an Undescribed Troglophilic* Crangonyx *species* ($250)

1995 **Wittenberg University Faculty Research Fund Board, Summer Research Grant** ($800)

## FELLOWSHIPS, AWARDS & RECOGNITION

2015 *University of Queensland International Collaborative Research Fellowship*, awarded to travel to the Queensland Brain Institute to study the developmental transition of stomatopod visual systems ($2000)

2011 *Rank Prize Fund Young Investigator Award*, awarded for best conference presentation by a young investigator at Symposium on Visual Optics and Photoreception ($800)

2010-2011 *Honors College Postdoctoral Teaching Fellowship, UMBC,* awarded to teach an honors course titled 'The Biology of Color' during the Spring semester ($4,000)

2009-2010 *Isobel Bennett Marine Biology Fellowship, '*Barcoding Larval Stomatopod Crustaceans for Physiological, Ecological, and Biodiversity Studies'. Lizard Island Research Station, Australian Museum ($8,000)

2004-2005 *AAUW Educational Foundation American Dissertation Fellowship* ($20,000)

2003-2004 *Myers Scholarship,* Dept. of Microbiology & Molecular Biology, BYU ($3000)

2003 *University Doctoral Fellowship* BYU, ($5,500)

2003 *Fellow of the National Speleological Society*-Prestigious award for significant contributions to the society

2002 *2nd Place Poster Award*, 14th Symposium, International Association of Astacology

2001-2004 *Julia Greenwell Scholarship,* BYU College of Biology and Agriculture ($1930/yr)

2000 *Symposium Fellowship,* Evolutionary and Developmental Consequences of Gene Duplication Conference, University of Oregon

1998 *James G. Mitchell Award* from the National Speleological Society ($105); competitive award given to best speaker under 25 years of age at national meeting

1996-1999 *University Distinguished Graduate Assistantship*, Univ. of Cincinnati ($15,000/yr)

1996 *Phi Beta Kappa*, Wittenberg University

1996 *Faculty Outstanding Achievement Award* Wittenberg University

1995 *Presidential Scholar* Wittenberg University

1994 *Beta Beta Beta*, Biology honorary, Wittenberg University

1994 *Pick and Pen*, junior honorary, Wittenberg University

1992 *Alpha Lambda Delta*, scholastic women's honorary, Wittenberg University

## EDUCATION & MENTORING EXPERIENCE

*UNDERGRADUATE RESEARCH AND HONORS PROJECT MENTOR, UNIVERSITY OF HAWAI'I AT MĀNOA:* Mentored 6 undergraduate women on projects ranging from anatomical studies to gene expression patterns in retinal tissues in crustacean eyes. Four students have been awarded undergraduate research grants.

*REU MENTOR, SUMMERS OF 2016 AND 2017:* Mentored 4 undergraduate women during summer REU programs (2 each year) on molecular-based projects related to understanding Hawaiian marine crustacean diversity.

*HIGH SCHOOL SCIENCE FAIR MENTOR 2016*: Mentored a local high school student on a molecular project investigating genetic diversity of a local stomatopod. Project won regional science fair in molecular category.

*ASSISTANT PROFESSOR, UNIVERSITY OF SOUTH DAKOTA, 2012-2015*: Responsible for teaching graduate seminars (Biological Rhythms, Fall 2012, 7 students), undergraduate introductory (General Biology II, Spring 2013 and 2014, 330 students) and upper level (Molecular Biology, Fall 2013, 56 students) courses. I am also currently mentoring seven undergraduate students on research projects including the phylogenetic systematics of the genus *Nepa* (Nepidae: Heteroptera: Insecta), and phylogenetic systematics and evolution of signal transduction within the Stomatopoda (Crustacea).

*PROFESSOR, BIOLOGY OF COLOR COURSE, UMBC 2011*: Spring semester I received a teaching fellowship to develop a seminar course for upper level honors students. One of the course goals was to make biology accessible to students from a variety of disciplines, using in-class discussions, student led presentations, interactive modules, and guest lectures.

*ACTING PROFESSOR, CONSERVATION BIOLOGY COURSE, BYU 2002*: Fall semester; Conservation Biology course for Dr. K.A. Crandall while he was on sabbatical. Responsibilities: preparing and presenting all lectures, organizing classroom activities, quizzes and exams, grading, and dealing with all student – professor interactions.

*UNDERGRADUATE MENTORING*: Mentored 17 different undergraduate students at USD, UMBC, BYU, and the UC for diverse projects, ranging from microbial ecology to snail conservation genetics to the evolution of visual pigments in the whooping crane. Mentoring responsibilities: gave students a project that would be their own responsibility, then guided them to the point where they could work independently towards collecting, analyzing, and publishing their data. Three undergraduate students co-authored peer-reviewed papers, with one taking lead-author responsibilities.

*GUEST LECTURER, MARINE PHYSIOLOGY, VISION SCIENCE, AND ANIMAL BEHAVIOR COURSES, UMBC 2005-2011:* Participation in undergraduate classroom settings through guest lecturing in upper level biology courses, particularly for sections related to vision and evolution.

*GUEST LECTURER, EVOLUTION AND MOLECULAR EVOLUTION COURSES, BYU 2001-2005:* Participation in classroom settings through guest lecturing in general biology courses, especially for sections on gene duplication and the evolution of vision.

*TEACHING ASSISTANTSHIPS, NON-MAJORS INTRODUCTORY BIOLOGY COURSES, BYU (1999-2000) AND ECOLOGY AND EVOLUTION COURSE, UC (1999):* Various experiences in laboratory-based instruction, teacher-student interactions, grading, and teaching field techniques.

## PROFESSIONAL DEVELOPMENT & SERVICE

*STATE OF THE TREE OF LIFE WORKSHOP, 2017:* Participated in weekend long workshop to learn about community development of tree databases, set community standards for archiving of phylogenies, and contributed to populating the database for crustaceans. Natural History Musuem, Chicago, IL USA.

*STYGOBROMUS WORKING GROUP, 2011-CURRENT:* Organizer and director of a formal group of scientists dedicated to the study, conservation, and management of North American subterranean amphipods.

*EDITOR, SPELEOBIOLOGY NOTES, 2009-CURRENT* (http://www.nsm.buffalo.edu/Research/SPELEOBIOLOGY_NOTES)

*FRESHWATER ANIMAL DIVERSITY ASSESSMENT (FADA), 2008-2011*: Principal editor for the Mysidacea (http://fada.biodiversity.be); responsible for maintaining the database on freshwater mysid species, including current taxonomy and distributional data.

*EXECUTIVE SECRETARY, NATIONAL SPELEOLOGICAL SOCIETY BIOLOGY SECTION, 2002-CURRENT:* Serve as head of the biology group within the NSS, including organizing section activities and creating a student travel scholarship for annual meeting attendance to present cave biology research.

*UMBC ADVANCE WORKSHOP, 2004:* Participation in an NSF-funded Advance workshop aimed at providing advanced graduate students with the necessary skills for being a successful tenure-track faculty member.

*PARTICIPANT IN A TEACHING PARTNERSHIP WORKSHOP, FACULTY CENTER, BYU 2001:* Participation in workshop aimed at building the methods and techniques employed in the classroom setting, based on current research in learning and education; preparation for teaching Conservation Biology.

*FREQUENT REVIEWER*: NSF, Evolution, Freshwater Biology, Journal of Crustacean Biology, Journal of Molecular Evolution, Journal of Molecular Biology and Evolution, Molecular Biology and Evolution, Trends in Ecology and Evolution, Zootaxa, Cambridge University Press.

*CHAIR & ORGANIZER*, National Karst Database Initiatives symposium at the National Speleological Society Convention, Bellingham, Washington, 2006. 60 attendees.

*SESSION CHAIR*, Biospeleology symposium at National Speleological Society Convention 2002-2013.

*RESEARCH ASSISTANT*, Computational Phylogenomics Research Group, Brigham Young University, involved in collaboration between systematists, statisticians, and computer scientists working on new methods of phylogenetic inference, 2000-2005

*EDITOR*, North American Biospeleology Newsletter 1998-2002

*CHAIR & ORGANIZER*: New Frontiers in Biospeleology symposium at National Speleological Society Convention, Sewanee, Tennessee, 1998.

## OUTREACH & CREATIVE ACTIVITIES

*MUSEUM ASSOCIATION CONFERENCE PANEL DISCUSSION ON ARTSCI 2017*: Involved in panel discussing ARTSCI collaboration between artists and scientists during Museum Association Conference for an audience of ~50 attendees.

*HAWAI'I MARCH FOR SCIENCE FESTIVAL 2017*: Set up booth on stomatopod biology for pre-march festival.

*WORKSHOP PRESENTER, EXPANDING YOUR HORIZONS, HAWAII 2016, 2017*: Designed a one-hour, hands-on workshop on vision and color for 6th-8th grade girls interested in STEM fields. (30 girls participated)

*ARTSCI 2016:* Partnership between artists and scientists to convey science as art. Collaborative pieces displayed as an exhibit at the Honolulu Art School, coordinated with IUCN conference.

*ANIMAL EXPERT FOR 6TH ANNUAL FIRST LEGO LEAGUE ANIMAL ALLIES MEET THE EXPERTS FESTIVAL 2016*: Set up booth and talked to middle school robotics clubs about stomatopod biology.

*FAMILY FUN NIGHT – MARINE MYSTERIES, WAIKIKI AQUARIUM 2016:* Set up booth on stomatopod vision for family night at aquarium.

*USD MARINE FILM FESTIVAL*, *2014*: Organized a film festival, in coordination with the USD Sustainability program and the Beneath the Waves Film Festival, centered on the conservation of marine ecosystems.

*GUEST SPEAKER, ARBUTUS MIDDLE SCHOOL SCIENCE COURSES, 2007-2008:* During this time I went to local middle schools to give presentations to science classes about research and field biology to serve as a role model to younger students interested in science.

*ZOOLOGY PRESENTER, YOUNG WOMEN'S SCIENCE AND MATH CONFERENCE, 2002-2005:* Participation in a conference for local grade and middle school girls, with the goal of keeping women interested and engaged in science by providing discussion about different career opportunities and serving as an active role model.

*PHOTOGRAPHY*: Photography used 2001-present for traveling Smithsonian Institute Exhibit "Exploring Caves" associated with IMAX movie. Photograph currently used by the National Speleological Society for advertisement (ad publication <*www.sites.si.edu/exhibitions/Caves.pdf*>)

## INVITED SEMINARS & PRESENTATIONS

(undergraduates indicated by *; graduate students are underlined)

1. **Porter, M.L.** (2017) *Aggression and the evolution of color signals in stomatopod crustaceans*. Invited speaker for Canadian Society of Ecology and Evolution, Victoria, British Columbia.
2. **Porter, M.L.** (2017) *An evolutionary perspective on vision, color signals, and aggression in stomatopod crustaceans.* Invited speaker for Pacific Bioscience Research Center University of Hawai'i at Mānoa seminar series.
3. **Porter, M.L.** (2017) *How an eye can work like an ear: the visual systems of mantis shrimp*. Invited public seminar, Hawai'i Sea Grant Hanauma Bay Education Program, Theater Thursdays.
4. **Porter M.L.** (2016) *The molecular evolution and development of visual system complexity in stomatopod crustaceans*. Invited symposium speaker, Gordon Research Conference, Visual System Development, West Dover, VT.
5. **Porter, M.L**. (2016) *Beyond the eye: Molecular evolution of extraocular photoreception*. Symposium on 'Extraocular, Nonvisual and Simple Photoreceptors', Society of Integrative and Comparative Biology Conference, Portland, Oregon USA.
6. **Porter, M.L.** (2015) *The molecular evolution of visual systems: variations in complexity and function.* Invited speaker, Light and Life Conference, The Royal Swedish Academy of Sciences, Stockholm, Sweden.

7. **Porter, M.L.** (2015) *A shrimp's view of the world: Linking development, evolution and behavior through the complex stomatopod visual system.* Invited speaker, Brigham Young University, Provo Utah, USA.
8. **Porter, M.L.** (2015) *Linking development, evolution and behavior through the complex stomatopod visual system.* Invited speaker, Lund University, Sweden.
9. **Porter, M.L.** (2015) *Vision and behavior in stomatopod crustaceans: Simple goals with complex solutions.* Invited speaker, Hawaii Institute of Marine Biology, Coconut Island, Hawaii.
10. **Porter, M.L.** (2015) *Vision and behavior in stomatopod crustaceans: Simple goals with complex solutions*. Invited speaker, Stephen F. Austin University, Texas.
11. **Porter, M.L.** (2015) *Vision and behavior in stomatopod crustaceans: Simple goals with complex solutions*. Invited speaker, Tupper Seminar Series, Smithsonian Tropical Research Institute, Panama.
12. **Porter, M.L.** (2014) *Complexity Compounded: The evolution and development of the mantis shrimp visual system*. Invited Speaker, Center for Brain and Behavior Research Conference, Vermillion, South Dakota.
13. **Porter, M.L.** (2013) *Complexity Compounded: The evolution of vision in stomatopod crustaceans.* Invited Speaker, Whitney Laboratory for Marine Bioscience, Florida.
14. **Porter, M.L.** (2013) *Complexity Compounded: The evolution of vision in stomatopod crustaceans.* Invited Seminar, Iowa State University.
15. **Porter, M.L.**, K.D. Feller, and T.W. Cronin (2013) *Developmental genetics of visual system complexity in stomatopods*. Symposium on 'Insect visual system development', Detroit, Michigan USA.
16. **Porter, M.L.,** R.L. Caldwell, T.H. Oakley, and T.W. Cronin. (2013) *Transcriptomics and the evolution of stomatopod visual systems*. Symposium on 'Integrating genomics with comparative vision research of the invertebrates', Society of Integrative and Comparative Biology Conference, San Francisco, California USA.
17. **Porter, M.L.,** N.W. Roberts, R.L. Caldwell, N.J. Marshall, and T.W. Cronin (2012) *The evolution of polarization vision in stomatopods: molecules, signaling, and behavior* Special Symposium on Polarization Vision, International Congress of Neuroethology, College Park, Maryland USA
18. **Porter, M.L.** (2012) *Molecular evolution of vision in mantis shrimp*. Seminar for the Queensland Brain Institute, University of Queensland, Brisbane, Australia.
19. **Porter, M.L.** and D.C. Culver (2010) *Tethyan distribution of stygobionts: Fact or fiction?* Plenary lecture, Patterns and Processes in Subterranean Biodiversity Symposium, International Conference of Subterranean Biology, Postojna, Slovenia
20. **Porter, M.L.** and A.S. Engel (2009) *Energy flow and productivity-diversity relationships in chemolithoautotrophic ecosystems.* Special Symposium on Geomicrobiology, International Congress of Speleology, Texas USA
21. **Porter, M.L.** (2008) *Molecular evolution of a complex visual system: Opsin evolution in stomatopod crustaceans.* Seminar for the Graduate Program in Evolution, Ecology, and Behavior, University of Buffalo.

22. **Porter, M.L.,** M.J. Bok, P.R. Robinson, and T.W. Cronin (2008) *Molecular evolution of polarization sensitive visual pigments*. New directions in research on polarization of light conference, Heron Island, Queensland Australia.
23. **Porter, M.L.,** M.J. Bok, P.R. Robinson, and T.W. Cronin (2008) *The evolution of stomatopod vision: Behavior, signals, and molecules*. Evolutionary Studies in Behavioral Neuroscience, International Seminar, Sokendai, Japan
24. **Porter, M.L.** (2007) *Opsin evolution in stomatopod crustaceans: Molecular investigations of a complex visual system*. Seminar for the American University Biology Department.
25. **Porter, M.L.**, K. Dittmar, and M. Pérez-Losada (2007) *How long does evolution of the troglomorphic form take? Estimating divergence times in Astyanax mexicanus*. Time in Karst Conference. Postojna, Slovenia
26. **Porter, M.L.**, R. Peterson*, A. Bennin*, H. Marrujo*, and K.A Crandall (2004) *Microbial studies of sediments from public cave lands: Baseline data for future applications*. Special Symposium on Cave Geomicrobiology, Geological Society of America, Denver, Colorado.

## PARTICIPATION AT PROFESSIONAL MEETINGS, SYMPOSIA, & CONFERENCES

(undergraduates indicated by *; graduate students are underlined)

1. **Porter, M.L**., A. Camson*, M. Steck, and E. Robinson (2017) The kinematics of larval stomatopod strike behavior. Society for Integrative and Comparative Biology Conference, New Orleans, Louisana, (oral presentation).
2. **Porter, M.L.** & J. Gumm (2017) The evolution of color signals in stomatopod crustaceans. Society for Integrative and Comparative Biology Conference, New Orleans, Louisana, (poster presentation).
3. Palecanda, S., A. Chan*, & **M.L. Porter** (2017) Shifts in opsin expression during the larval to adult transition in *Pullosquilla thomassini* (Crustacea, Stomatopoda). Society for Integrative and Comparative Biology Conference, New Orleans, Louisana, (poster presentation).
4. Steck, M., V. Roncalli, M. Cieslak, P.H. Lenz, A. Christie, and **M.L. Porter** (2017) Characterization of phototransduction genes in *Alima pacifica* (Crustacea, Stomatopoda). Society for Integrative and Comparative Biology Conference, New Orleans, Louisana.
5. **Porter, M.L.** & J. Yew (2016) Cuticular hydrocarbon analysis of cave versus surface Hawaiian planthoppers. 23rd International Conference on Subterranean Biology, Fayetteville, AK USA.
6. Koch, A.D.*, J.D.W. Yaeger, M.W. Buchanan*, **M.L. Porter**, M.J. Watt, and K.J. Renner (2016) Aggressive interactions between mantis shrimp (*Neogonodactylus oerstedii*) are mediated by brain monoamine levels and recognition of previous opponents. Society for Neuroscience conference, San Diego CA (poster presentation).
7. Chan, A.* and **M.L. Porter** (2016) *Characterization of the amphipod visual system*. Tester Symposium, University of Hawai'i at Manoa, Hawai'i, USA.
8. Palecanda, S., A. Chan*, and **M.L. Porter** (2016). Shifts in opsin expression during the larval to adult transition in *Pullosquilla thomassini* (Crustacea, Stomatopoda). Tester Symposium, University of Hawai'i at Manoa, Hawai'i, USA.

9. Steck, M.*, V. Roncalli, M. Cieslak, A. Christie, P. Lenz, and **M.L. Porter** (2016) Phototransduction characterization in the stomatopod *Alima pacifica*. Tester Symposium, University of Hawai'i at Manoa, Hawai'i, USA.
10. Bok, M.J., **M.L. Porter**, D.-E. Nilsson (2015) Nature's oddest eyes: The function and evolution of branchial compound eyes in sabellid polychaetes. Gordon Research Conference, Neuroethology, Tuscany, Italy.
11. **Porter, M.L.,** Dowd, S.E., K.D. Feller, and T.W. Cronin (2014) *Stomatopod opsin expression patterns in simple larval versus complex adult eyes*. Society for Integrative and Comparative Biology, Austin, Texas, (oral presentation).
12. **Porter, M.L**., D.I. Speiser, A.K. Zaharoff, R.L. Caldwell, T.H. Oakley, and T.W. Cronin (2013) *Complexity compounded: The evolution of phototransduction in stomatopods*. International Conference on Invertebrate Vision, Bäckaskog Castle, Sweden (oral presentation).
13. **Porter, M.L.**, B. Haynes*, L. Williams*, S. Swain*, K.A. Crandall, and T.W. Cronin (2011) *Molecular investigations of a complex visual system in stomatopod crustaceans*. Rank Prize Funds Symposium on Visual Optics and Photoreception, Grasmere, United Kingdom (oral presentation).
14. **Porter, M.L.,** J.R. Blasic, M.J. Bok, E.G. Cameron, T. Pringle, T.W. Cronin, and P.R. Robinson (2011) *Shedding new light on opsin evolution* FASEB summer research conference, 'The Biology and Chemistry of Vision', Arizona, USA (poster presentation).
15. Engel, A.S., **M.L. Porter**, J. Mulec, B. Headd, T. Brown, K. Brannen, N. Lee, and B.J. Campbell (2011) *Evaluating bacterial diversity in cave and karst habitats in light of the coming "-omics" revolution* International Symposium of Subsurface Microbiology, Garmisch-Partenkirchen, Germany (poster presentation).
16. **Porter, M.L.**, D.C. Culver, and T. Pipan (2010) *Molecular diversity of epikarst copepods from John Friends Cave, Maryland USA*. International Conference of Subterranean Biology, Postojna, Slovenia (poster presentation).
17. **Porter, M.L.,** P.R. Robinson, and T.W. Cronin (2010) *How to deconstruct a complex eye: Visual system evolution in Squilla empusa (Crustacea: Stomatopoda)*. International Society of Neuroethology, Salamanca, Spain (poster presentation).
18. Bok, M.J., **M.L. Porter**, and T.W. Cronin (2010) *Ultraviolet vision in mantis shrimp*. GABS Symposium, University of Maryland Baltimore County, MD (oral presentation).
19. **Porter, M.L.,** M.J. Bok, P.R. Robinson, and T.W. Cronin (2008) *Molecular diversity, patterns of expression, and functional divergence of visual pigments in Stomatopoda (Crustacea*). The Second International Conference on Invertebrate Vision, Bäckaskog Castle, Sweden (oral presentation).
20. **Porter, M.L.,** M. Bok, P.R. Robinson, and T.W. Cronin (2007) *Evolutionary pattern of opsin expression in stomatopod polarization-sensitive photoreceptors*. FASEB Biology and Chemistry of Vision Conference, Snowmass Colorado (poster presentation)
21. **Porter, M.L.,** M. Bok, P.R. Robinson, and T.W. Cronin (2007) *Evolution of stomatopod middle wavelength sensitive visual pigments.* Vision Down Under Conference, Cairns Australia (oral presentation)
22. **Porter, M.L.**, P.R. Robinson, and T.W. Cronin (2006) *Stomatopod opsin evolution: Patterns of expression in a complex color visual system.* Tenth Annual Vision Research Conference, Rhodopsin: Advances and Perspectives. Ft. Lauderdale, FL (poster presentation)

23. **Porter, M.L.**, T.W. Cronin, D.A. McClellan, and K.A. Crandall (2006) The molecular evolution of invertebrate opsins. Association for Research in Vision and Ophthalmology, Ft Lauderdale, FL (poster presentation)
24. Pahlberg, J., **M.L. Porter**, K.A. Crandall, and K. Donner (2006) *Amino acid substitutions and spectral tuning in an invertebrate visual pigment*. Association for Research in Vision and Ophthalmology, Ft. Lauderdale, FL (poster presentations)
25. **Porter, M.L.**, Pérez-Losada, M., Connell, A., Cronin, T.W., Crandall, K.A. (2005) *Phylogenetic relationships and visual system evolution within the Mysidae (Mysida, Crustacea)*. Sixth International Crustacean Congress, Glasgow Scotland. (Oral presentation)
26. Engel, A.S., and **Porter, M.L.** (2005) *Exploring the microbial diversity of sulfidic karst springs and evaluation of microbial indicator species*. Geological Society of America, Salt Lake City, UT. (Oral presentation)
27. Engel, A.S., **Porter, M.L.**, and Northup, D. (2005) *Transcontinental distribution of novel "Epsilonproteobacteria" in terrestrial caves and springs with sulfidic waters*. International Symposia for Subsurface Microbiology (ISSM) and Environmental Biogeochemistry (ISEB XVII): Jackson Hole, WY. ASM, Washington, D.C. (Poster presentation)
28. Meisinger, D., Engel, A.S., Lee, N., **Porter, M.L.**, Stern, L.A., Bennett, P.C. (2005) *Molecular and functional diversity of anaerobic metabolic guilds in aphotic redox-stratified microbial mats from Lower Kane Cave*. International Symposia for Subsurface Microbiology (ISSM) and Environmental Biogeochemistry (ISEB): Jackson Hole, WY. ASM, Washington, D.C. (Poster presentation)
29. Zimmermann, J., Engel, A.S., Meisinger, D. **Porter, M.L.**, Stern, L.A., Bennett, P.C., Ludwig, W., Schleifer, K.-H., Lee, N. (2005) Acidobacterial diversity in filamentous microbial mats from Lower Kane Cave, Wyoming, *in* Program and Abstracts of the Joint International Symposia for Subsurface Microbiology (ISSM 2005) and Environmental Biogeochemistry (ISEB XVII): Jackson Hole, WY. ASM, Washington, D.C., p. 57. (Poster presentation)
30. Bennin, A.*, H. Marrujo*, **M.L. Porter**, and K.A. Crandall (2004) *Molecular analysis of microbial communities from pristine and disturbed sites from the Timpanogos Cave system in American Fork, Utah.* Evolution conference, Fort Collins, Colorado. (Poster presentation)
31. Jasper, J., A. Bennin*, H. Marrujo*, **M.L. Porter**, and K.A. Crandall (2004) *Disturbed versus pristine microbial communities in Timpanogos Cave National Monument.* National Speleological Society Conference, Marquette, Michigan (Oral presentation - ***won award for best talk related to a show cave***).
32. Dittmar de la Cruz, K., **M.L. Porter**, S. Murray (2004) *Phylogenetic inferences of the parasitic bat flies Streblidae and Nycteribiidae (Diptera: Brachycera: Calyptratae)*. National Speleological Society Conference, Marquette, Michigan (Oral presentation).
33. **Porter, M.L.**, A. Perez-Gonzalez, and M. Perez-Losada. 2003. *Can the blind see? Studies of visual pigments in stygobitic crustaceans*. National Speleological Society Convention, Porterville California (Oral presentation)
34. **Porter, M.L.**, J. Flygare*, L. Sinclair, J.W. Fetzner Jr., and K.A. Crandall. 2002. *Phylogenetic investigations of subgeneric structure in the genus Cambarus (Astacidae:Cambaridae).* 14th International Symposium of the International Association of Astacology, Queretaro, Mexico. (Poster presentation, ***won 2$^{nd}$ place poster award for conference***)

35. Engel, A.S., Bennett, P.C., Stern, L.A., **Porter, M.L.**, Lee, N., and Wagner, M. (2002) *Epsilon-Proteobacterial diversity from sulfidic cave springs*. International Symposium for Subsurface Microbiology, Copenhagen, Denmark, p. 33-34. (Oral presentation)
36. Engel, A.S., **Porter, M.L.**, Stern, L.A., and Bennett, P.C. (2002) *Diversity of chemoautotrophic sulfur-oxidizing bacteria in sulfidic caves.* National Speleological Society Meeting, Camden Maine (Oral presentation)
37. **Porter, M.L.**, Russell, S.*, Engel, A.S., and Stern, L.A. (2002) *Population studies of the endemic snail Physa spelunca (Gastropoda:Physidae) from Lower Kane Cave, WY.* National Speleological Society Meeting, Camden Maine (Oral presentation)
38. **Porter, M.L.**, M. Perez-Losada, and K.A. Crandall (2001) *Relationships within the Decapoda: The Reptantian riddle.* International Congress of Crustaceans, Melbourne Australia. (Oral presentation)
39. **Porter, M.L.** and K.A. Crandall (2000) *Invertebrate Opsin Evolution*. The Evolutionary and Developmental Consequences of Gene Duplication Conference, University of Oregon. ***Won symposium fellowship***. (Poster presentation)
40. **Porter, M.L**. (2000) *Modeling Ecosystem Energetics in Movile Cave, Romania. Friends of Karst: Karst Studies and Problems, 2000 and Beyond*, Cluj, Romania. (Poster presentation)
41. Engel, A.S., **Porter, M.L.**, and Shapiro, V.* (2000) *Ecological and geological significance of microbial communities in a sulfidic cave.* National Speleological Society Convention, Filer Idaho (Oral presentation)
42. **Porter, M.L.** (1999) *Ecological potential of subsurface microbial productivity from sulfidic environments*. National Speleological Society Convention, Filer Idaho (Oral Presentation)
43. **Porter, M.L.** (1999) *Microbial Productivity in Sulfidic Groundwater Systems*. 4th International Symposium on Subsurface Microbiology, Vail, CO, p.21 (Oral presentation)
44. **Porter, M.L.** (1998) *Primary productivity estimates from a chemoautotrophic microbial community in Movile Cave, Romania*. National Speleological Society Convention, Sewanee, Tennessee (Oral presentation)
45. **Porter, M.L.** and H.H. Hobbs III. (1997) *Observations on the geographic distribution and ecology of an undescribed species of Crangonyx endemic to southern Indiana USA (Amphipoda:Crangonyctidae).* 12th International Congress of Speleology, La Chaux-de-Fonds, Switzerland (Poster presentation)
46. Dogwiler, T.J., **M.L. Porter**, and H.H. Hobbs III. (1996) *Anthropogenic impacts upon air temperature and relative humidity in spelean environments.* National Conference on Undergraduate Research, Asheville, NC (Poster presentation)
47. **Porter, M.L.** and H.H. Hobbs III. (1996) *Population estimate of an undescribed species of Crangonyx from Dillion Cave, Indiana (Crustacea:Amphipoda)*. 105th Annual Meeting, The Ohio Academy of Science, Canton, OH (Poster presentation)
48. **Porter, M.L.**, and G. Henning (1995) *Trash dispersal and accumulation of East Beach, San Salvador Island, the Bahamas.* National Conference on Undergraduate Research, Schenectady, NY (Poster presentation)