CURRICULUM VITAE

ALEXANDRA C. NAHM KINGSTON

University of South Carolina
Department of Biological Sciences
715 Sumter Street CLS606
Columbia, SC 29208

Email Addresses: acnahm@gmail.com
kingstoa@mailbox.sc.edu

PROFESSIONAL POSITIONS

September 2015-present — **University of South Carolina**, Columbia, SC
Postdoctoral Research Fellow
Advisor: Dr. Daniel I. Speiser
Project Title: Evolutionary origins of chiton shell-eyes: Integrating structure, function, and gene expression within a phylogenetic context

April-September 2017 — **Belle W. Baruch Institute for Marine & Coastal Sciences**, Georgetown, SC
Visiting Scientist

EDUCATION

August 2008 - August 2015 — **University of Maryland, Baltimore County**, Baltimore, MD
Doctor of Philosophy: Biological Sciences
Advisor: Dr. Thomas W. Cronin
Thesis Title: A comparative molecular characterization of extraocular photoreceptors

August 2004 - May 2008 — **Arizona State University**, Tempe, AZ
Bachelor of Science; Major: Biology, *Cum laude*
Undergraduate Research Advisor: Dr. Ronald L. Rutowski

PUBLICATIONS

Kingston, A.C.N., D.R. Chappell, H.V. Miller, S.J. Lee, and D.I. Speiser (2017). Expression of G-proteins in the eyes and parietovisceral ganglion of the bay scallop *Argopecten irradians*. *The Biological Bulletin*: doi:10.1086/694448

Kingston, A.C.N. and T.W. Cronin (2016). Diverse distributions of extraocular opsins in crustaceans, cephalopods and fish. *Integrative and Comparative Biology*: doi:10.1093/icb/icw022

Kingston, A.C.N. and T.W. Cronin (2015). Short- and long-wavelength-sensitive opsins are involved in photoreception both in the retina and throughout the central nervous system of crayfish. *Journal of Comparative Physiology A*: doi: 10.1007/s00359-015-1043-2.

Kingston, A.C.N., T.J. Wardill, R.T. Hanlon, and T.W. Cronin (2015b). An unexpected diversity of extraocular photoreceptor classes in the longfin squid, *Doryteuthis pealeii*. *PLOS ONE*: doi: 10.1371/journal.pone.0135381.

Kingston, A.C.N., A.M. Kuzirian, R.T. Hanlon, and T.W. Cronin (2015a). Visual phototransduction components in cephalopod chromatophores suggest dermal photoreception. *Journal of Experimental Biology:* doi:10.1242/jeb.117945.

Porter, M.L., **A.C.N. Kingston**, R. McReady, E.G. Cameron, C. Hoffman, L. Suarez, G. Olsen, P.R. Robinson, & T.W. Cronin (2014). Visual pigments, oil droplets, lens and cornea characterization in the endangered whooping crane *Grus americana*. *Journal of Experimental Biology* 217: 3883-3890.

Pegram, K.V., **A.C. Nahm**, & R.L. Rutowski (2013). Warning color changes in response to food deprivation in the pipevine swallowtail butterfly, *Battus philenor*. *Journal of Insect Science* 13:1-16.

Rayjyaguru P.K., K.V. Pegram, **A.C.N. Kingston** & R.L. Rutowski (2013). Male wing color properties predict the size of nuptial gifts given during mating in the Pipevine Swallowtail butterfly (*Battus philenor*). *Naturwissenschaften* 100: 507-513.

Rutowski, R.L., **A.C. Nahm**, & J.M. Macedonia (2010). Iridescent hindwing patches in the Pipevine Swallowtail: differences in dorsal and ventral surfaces relate to signal function and context. *Functional Ecology*: doi:10.1111/j.1365-2435.2010.01693.x

AWARDS AND HONORS

2016	**Wolf Dissertation Award**, University of Maryland, Baltimore County
2015	**Best Student Oral Paper**, Division of Neurobiology, Society for Integrative and Comparative Biology (SICB)
2014	**Best Student Oral Paper**, Division of Neurobiology, Society for Integrative and Comparative Biology (SICB)
2013	**Best Poster**, Graduate Association of Biological Sciences Symposium, UMBC
2012	**Invited Graduate Student Presenter,** Graduate Association of Biological Sciences, UMBC
2007-2008	**SOLUR** (School of Life Sciences Undergraduate Research Program) **Undergraduate Researcher**, Arizona State University (supported by HHMI)

GRANT PROPOSALS FUNDED

2017 Visiting Scientist Award Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina, Baruch Marine Field Laboratory: $3000

USC Advanced Support Program for Innovative Research Excellence-I (ASPIRE-1, Track IIB for Postdoctoral Scholars): "Co-evolution of complex traits associated with a key innovation: Weaponry, armor, vision, and predator avoidance in the snapping shrimp, *Alpheus heterochaelis*": $5000

GRANT PROPOSALS SUBMITTED

NSF IOS Neural Systems: Activation: "IOS Preliminary Proposal: Co-evolution of complex traits associated with a key innovation: Weaponry, armor, vision, and predator avoidance in snapping shrimp (Decapoda: Alpheidae)"
Rated: HIGH PRIORITY

USC Advanced Support Program for Innovative Research Excellence-I (ASPIRE-1, Track IIB for Postdoctoral Scholars): "Co-evolution of complex traits associated with a key innovation: Weaponry, armor, vision, and predator avoidance in the snapping shrimp, *Alpheus heterochaelis*"

L'Oréal USA For Women in Science Fellowship: "Co-evolution of complex traits associated with a key innovation: A comparative comparative study of weaponry, armor, vision, and predator avoidance in snapping shrimp (Decapoda: Alpheidae).

2017 Visiting Scientist Award Belle W. Baruch Institute for Marine and Coastal Sciences, University of South Carolina, Baruch Marine Field Laboratory

INVITED SEMINARS/SYMPOSIUM PRESENTATIONS

Kingston, A.C.N., D.R. Chappell, and D.I. Speiser (2017) How and why eyes evolved in chitons. PopBio Seminar Series, Duke University, Durham, NC.

Kingston, A.C.N. (2017) Co-evolution of complex traits associated with a key innovation: Weaponry, armor, vision, and predator avoidance in the snapping shrimp, *Alpheus heterochaelis*. Belle W. Baruch Institute for Marine and Coastal Sciences: Visiting Scientist Lecture. Georgetown, SC.

Kingston, A.C.N. & T.W. Cronin (2016) Dermal and central nervous system opsins in crustaceans, cephalopods, and fish. Society for Integrative and Comparative Biology Annual Meeting, Portland, OR.

Kingston, A.C.N., R.T. Hanlon, and T.W. Cronin (2013) Characterizing light sensors in the skin of squid. National Zoological Park, Smithsonian Institution, Washington DC.

Kingston, A., and T.W. Cronin (2012) Photoreception on the surface: Dermal opsins in cuttlefish, squid and flounder. GABS symposium, UMBC, Baltimore, MD.

PRESENTATIONS

Kingston, A.C.N. & D.I. Speiser (2017) Decreasing molecular complexity in increasingly complex sensory structures of chitons. Evolution, Portland, OR.

Kingston, A.C.N. & D.I. Speiser (2017) Diverse sensory structures in the shell plates of chitons express the molecular components of rhabdomeric phototransduction. Society for Integrative and Comparative Biology Annual Meeting, New Orleans, LA.

Kingston, A.C.N. & D.I. Speiser (2016) The eyespots of Genus Chiton are not associated with spatial vision. Society for Integrative and Comparative Biology Southeast Regional Meeting, Durham, NC.

Kingston, A.C.N. & T.W. Cronin (2015) Identical opsins in the retina and central nervous system of crayfish, *Procambarus clarkii*. Society for Integrative and Comparative Biology Annual Meeting, West Palm Beach, FL.

Kingston, A.C.N. & T.W. Cronin (2014) Evidence of short- and long-wavelength sensitive opsins in the retina and nerve cord of the crayfish, *Procambarus clarkii*. International Congress of Neuroethology, Sapporo, Japan. (Poster).

Kingston, A.C.N. & T.W. Cronin (2014) Visual opsins in non-visual photoreceptors: A common solution for extraocular light detection. Society for Integrative and Comparative Biology Annual Meeting, Austin, TX.

Kingston, A., G. Bell, A.M. Kuzirian, R.T. Hanlon, and T.W. Cronin (2013). Extraocular photoreception in the skin of the squid, *Doryteuthis pealeii*. International Congress of Invertebrate Vision Meeting. Bäckaskog, Sweden.

Kingston, A., R.T. Hanlon, and T.W. Cronin (2013). Chromatophores in skin of the squid, *Doryteuthis pealeii*: A rhodopsin-retinochrome photosensitive system? GABS symposium, UMBC, Baltimore, MD (Poster).

Kingston, A., R.T. Hanlon, and T.W. Cronin (2013). Immunolabeling reveals distributed

expression of opsin in the skin of the squid, *Doryteuthis pealeii*. Society for Integrative and Comparative Biology Annual Meeting, San Francisco, CA.

Kingston, A., G. Bell, A. Kuzirian, R.T. Hanlon, T.W. Cronin (2012) Evidence for a rhodopsin-retinochrome photosensitive system in the skin of the squid, *Loligo pealeii*. AVA Animal Vision Conference, University of Sussex, UK (Poster).

Kingston, A., G. Bell, A. Kuzirian, R.T. Hanlon, T.W. Cronin (2012) Evidence for a rhodopsin-retinochrome photosensitive system in chromatophores of the squid, *Loligo pealeii*. 10th International Congress of Neuroethology, College Park, MD. (Poster).

Kingston, A., G. Bell, A. Kuzirian, R.T. Hanlon, T.W. Cronin (2012) Dermal opsins of the summer
flounder, *Paralichthys dentatus*. Society for Integrative and Comparative Biology Annual Meeting, Charleston, SC (Poster).

Nahm, A.C. & T.W. Cronin (2011) Extraocular opsins in the nerve cord of crayfish. GABS symposium, UMBC, Baltimore, MD (Poster).

Nahm, A.C., R.T. Hanlon, A.M. Kuzirian, and T.W. Cronin (2010) An extraocular opsin in the squid, *Loligo pealeii*. GABS symposium, UMBC, Baltimore, MD (Poster).

Nahm, A.C. and Ronald L. Rutowski (2008) Effects of rearing condition and age on iridescent coloration in *Battus philenor*. Iridescence: More than meets the eye, Tempe, AZ (Poster).

TEACHING EXPERIENCE

Fall 2017	Guest Lecturer, USC, Comparative Physiology: Metabolism and Thermogenesis
Fall 2016	Guest Lecturer, USC, Comparative Physiology: Non-visual Photoreceptors
Spring 2015	Guest Lecturer, UMBC, Vision Science: Non-visual Photoreceptors
Spring 2011	Teaching Assistant, UMBC, Foundations of Biology: Ecology and Evolution
Fall 2010	Teaching Assistant, UMBC: Cell Biology Lab
Spring 2010	Teaching Assistant, UMBC: Plant Biology Lab
Fall 2009	Teaching Assistant, UMBC: Cell Biology Lab

PROFESSIONAL SERVICE

June 2017- present	University of South Carolina Postdoctoral Association (PDA) Treasurer
January 2016-present	Society for Integrative and Comparative Biology Division of Neurobiology, Neuroethology, and Sensory Biology Student/Postdoc Representative

Reviewer:

- *Integrative and Comparative Biology*
- *Journal of Experimental Marine Biology and Ecology*
- *Journal of Visualized Experiments*

PROFESSIONAL DEVELOPMENT

- Attendee of Aurion/Electron Microscopy Sciences Immunogold Silver Staining workshop (October, 2016)
- Participant in NextProf:Science hosted by the University of Michigan (May, 2016)