

Katrina M. Pagenkopp Lohan, Ph.D.

Marine Disease Ecology Laboratory
Smithsonian Environmental Research Center
647 Contees Wharf Road, Edgewater, MD
@kmplohan, @SERCMarDisease

EDUCATION

2011 Ph.D., Marine Science, The College of William and Mary
2006 M.S., Biology, American University
2004 B.S., Marine Science, Southampton College of Long Island University

PROFESSIONAL PREPARATION

2017—present Principal Investigator, Marine Disease Ecology Laboratory, Smithsonian Environmental Research Center
2015 – 2017 Biologist, Marine Invasions Research Laboratory, Smithsonian Environmental Research Center
* Maternity leave from October 2015 – January 2016
2012 – 2015 Smithsonian MarineGEO Postdoctoral Fellow, Marine Invasions Research Laboratory, Smithsonian Environmental Research Center & Center for Conservation Genomics, National Zoological Park
2007 – 2011 Doctoral Student, School of Marine Science, The College of William and Mary, Virginia Institute of Marine Science
2006 – 2007 Biological Science Laboratory Technician, Department of Entomology, National Museum of Natural History
2004 – 2006 Master's Student, Biology Department, American University

PUBLICATIONS: [Google Scholar page](#)

Refereed Journal Articles

14. JA Darling, J Martinson, Y Gong, S Okum, E Pilgrim, **KM Pagenkopp Lohan**, KJ Carney, and GM Ruiz (2018) Ballast water exchange and invasion risk posed by intracoastal vessel traffic: An evaluation using high throughput sequencing. *Environmental Science and Technology*. doi:10.1021
13. **KM Pagenkopp Lohan**, KM Hill-Spanik, ME Torchin, RC Fleischer, & GM Ruiz (2018) Phylogeography and connectivity of molluscan parasites in Panama and beyond. *International Journal of Parasitology*. 48: 135-144.
12. **KM Pagenkopp Lohan**, RC Fleischer, KJ Carney, KK Holzer, & GM Ruiz (2017) Molecular characterization of protistan species and communities in ships' ballast water across three U.S. coasts. *Diversity and Distributions*. 23: 680-691.

11. **KM Pagenkopp Lohan**, ME Torchin, RC Fleischer, & GM Ruiz (2017) Protistan biogeography: A snapshot across a major shipping corridor spanning two oceans. *Protist*. 168: 183-196.
10. **KM Pagenkopp Lohan**, KM Hill-Spanik, ME Torchin, L Aguirre-Macedo, RC Fleischer, & GM Ruiz (2016) Richness and distribution of tropical oyster parasites in two oceans. *Parasitology*. 143: 1119-1132.
9. **KM Pagenkopp Lohan**, RC Fleischer, KJ Carney, KK Holzer, & GM Ruiz (2016) Amplicon-based pyrosequencing reveals high diversity of protistan parasites in ships' ballast water: Implications for biogeography and infectious diseases. *Microbial Ecology*. 71:530-542.
8. **KM Pagenkopp Lohan**, KM Hill, RC Fleischer, ME Torchin, EE Strong, & GM Ruiz (2015) Molecular phylogenetics reveals first record and invasion of *Saccostrea* species in the Caribbean. *Marine Biology*. 162(5): 957-968.
7. **KM Pagenkopp Lohan**, JR McDowell, JD Shields, & KS Reece (2014) Genotypic variation of *Hematodinium perezii* along the Delmarva Peninsula, Virginia. *Marine Biology*. 161: 261-273.
6. **KM Pagenkopp Lohan**, HJ Small, JD Shields, AR Place, & KS Reece (2013) Conservation in the first internal transcribed spacer (ITS1) region of *Hematodinium perezii* genotype III from *Callinectes sapidus*. *Diseases of Aquatic Organisms*. 103: 65-75.
5. **KM Pagenkopp Lohan**, JR McDowell, JD Shields, J Xiao, TL Miller, & KS Reece (2012) Isolation and characterization of microsatellite loci for the parasitic dinoflagellate, *Hematodinium perezii*, a parasite of *Callinectes sapidus*. *Molecular Ecology Resources*. 12: 570-572.
4. **KM Pagenkopp Lohan**, KS Reece, TL Miller, KN Wheeler, HJ Small, & JD Shields (2012) The role of alternate hosts in the ecology and life history of *Hematodinium*, a parasitic dinoflagellate of the blue crab (*Callinectes sapidus*). *The Journal of Parasitology*. 98(1): 73-84.
3. HJ Small & **KM Pagenkopp** (2011) Alternate hosts and potential reservoirs for disease causing organisms of commercially important crustaceans. (Invited review) *Journal of Invertebrate Pathology*. 106: 153-164.
2. C Li, KS Reece, TL Miller, HJ Small, **KM Pagenkopp**, & JD Shields (2010) A real-time assay for detection and quantification of the parasitic dinoflagellate *Hematodinium spp.* in environmental water samples. *Harmful Algae*. 9: 515-521.
1. **KM Pagenkopp**, J Klicka, KL Durrant, JC Garvin, & RC Fleischer (2008) Geographic variation in malarial parasite lineages in the Common Yellowthroat (*Geothlypis trichas*). *Conservation Genetics*. 9(6): 1577-1588.

Manuscripts or Book Chapters in Review or Preparation

- KM Pagenkopp Lohan**, T Campbell, J Guo, M Wheelock, R DiMaria, & J Geller (In Review) Whole subsample vs. Homogenizing: Testing impacts of pre-extraction processing on assessments of richness and diversity metrics for multi-species samples. *Management of Biological Invasions*.
- KM Pagenkopp Lohan**, GM Ruiz, & ME Torchin (In Review) Chapter 5: Drivers, traits, and consequences of marine parasite invasions. For *Marine Disease Ecology*. Eds: DC Behringer, BR Silliman, KD Lafferty
- KM Pagenkopp Lohan**, R DiMaria, D Martin, C Ross, V Paul, & GM Ruiz (In preparation) Examining the diversity and habitat association of *Labyrinthula spp.* in Florida coastal waters with targeted metabarcoding. *Diseases of Aquatic Organisms*.
- KM Pagenkopp Lohan**, I Davidson, T Mullady, & GM Ruiz (In preparation) Examination of microbial communities in biofilms of submerged ship hulls. *Methods in Ecology and Evolution*

Reports

I Davidson, G Ashton, G Ruiz, C Scianni, C Brown, **K Pagenkopp Lohan**, & R Fleischer (2013) Richness, extent, condition, reproductive status, and parasitism of fouling communities on commercial vessels. Report to the California State Lands Commission Marine Invasive Species Program, Sacramento, California. 54pp.

GRANTS & AWARDS

2019 – 2021	NOAA Chesapeake Bay Office, “The value of shallow tributary habitats of upper Chesapeake Bay to the Summer Flounder <i>Paralichthys dentatus</i> ” (\$233,058)
2018 – 2020	NOAA Chesapeake Bay Office, “Integrative Assessment of the Quality of Shallow Tributary Forage Habitats for Striped Bass in Chesapeake Bay” (\$240,011)
2015 – 2016	Grand Challenges Award, Smithsonian Institution (\$65,000)
2012 – 2014	Grand Challenges Award, Smithsonian Institution (\$100,000)
2012 – 2014	MarineGEO Postdoctoral Fellowship, Smithsonian Institution (\$110,000)
2012	Small Sequencing Award, Smithsonian Institution (\$6,000)
2011	Student Travel Award, National Shellfisheries Association (\$250)
2010	Snieszko Student Travel Award, International Symposium on Aquatic Animal Health (\$1,000)
2010	Burroughs Wellcome Ecology and Evolution Travel Scholarship, Ecology and Evolution of Infectious Diseases (\$320)
2008	Graduate Studies Fellowship in Population Genetics, Crustacean Society (\$1,000)
2005	Graduate Student Mellon Research Grant, American University (\$470)
2005	Graduate Student Fellowship, Smithsonian Institution (\$4,500)
2001 – 2004	Southampton College Academic Excellence Award
2004	Cooperative Education Senior Recognition Award
2003 – 2004	Cooperative Education Student of the Year

SERVICE

2016 – present	SERC Representative on Smithsonian Initiative for Biodiversity Genomics Executive Committee
2017 – present	SERC Representative on Smithsonian Initiative for Biodiversity Genomics Postdoctoral Fellowship Selection Committee
2016	SERC Representative on OCIO High Performance Computing Cluster Policy Planning Committee
2015 – present	Member of SERC Ecological Genomics working group
2015 – 2017	Member of Marine Invasions Research Laboratory Administrative team
2010 – 2011	Graduate Student Representative on the Student Health Advisory Committee, Virginia Institute of Marine Science
2006	Graduate Student Representative on Tenure Committee, American University

AD HOC REVIEWS

Peer-reviewed Journals: *Parasitology*, *Journal of Parasitology*, *Marine Biology*, *Journal of Sea Research*, *Diseases of Aquatic Organisms*, *Marine Biology Research*, *Marine Biodiversity*, *Environmental Science and Technology*, *Bioinvasions Records*, *Biological Invasions*, *Journal of Invertebrate Pathology*, *Journal of Eukaryotic Microbiology*, *Frontiers in Ecology and the Environment*, *Marine Pollution Bulletin*, *FEMS Microbiology Ecology*

Proposals: North Pacific Research Board, NOAA Saltonstall-Kennedy Grant Program, National Science Foundation (Biological Oceanography)

EDUCATION & OUTREACH

2012 – present	Contributor to SERC travel blog, Shorelines (http://sercblog.si.edu)
2012 – present	Contributor to the Ocean Portal blog, National Museum of Natural History
2012 – 2013	Volunteer, “The Scientist is In”, National Museum of Natural History
2012	Volunteer, Chesapeake Bay Bowl at George Mason University
2009	Volunteer, Marine Science Day at the Virginia Institute of Marine Science
2005	Volunteer, Chesapeake Bay Bowl at American University
2003 – 2004	Volunteer, Wildlife Rescue Center of the Hamptons

PRESENTATIONS (*denotes invited lectures)

- 2018 C Ross, P Duffin, D Martin & **KM Pagenkopp Lohan** “Seagrass Wasting Disease: The Infection Dynamics of a *Labyrinthula* sp. – Turtlegrass Pathosystem.” Southeastern Estuarine Research Society, St. Augustine, FL.
- 2017 **KM Pagenkopp Lohan**, R DiMaria, D Martin, C Ross, V Paul, E Duffy, D Harvell, M Torchin, & G Ruiz “Host and habitat differences of *Labyrinthula* parasites: A metabarcode approach.” Global Biodiversity Genomics Conference, Washington, DC.
- 2016 **KM Pagenkopp Lohan**, KM Hill-Spanik, ME Torchin, L Aguirre-Macedo, RC Fleischer, & GM Ruiz “Biogeography of oyster parasites in two tropical oceans” 715th Meeting of the Helminological Society of Washington, Washington, DC.
- 2016 ***KM Pagenkopp Lohan** “Hunting Marine Parasites with Genomics.” Castle Lecture Series, Smithsonian Institution, Washington, DC. (for general audience; see video of “Hunting for Marine Parasites with Genomics” [here](#))
- 2014 ***KM Pagenkopp Lohan** “A Tale of Two Parasites: From a Regional to a Global Perspective.” Evening Lecture Series, Smithsonian Environmental Research Center, Edgewater, MD. (for general audience)
- 2014 **KM Pagenkopp Lohan**, RC Fleischer, KK Holzer, KJ Carney, & GM Ruiz “Amplicon-based pyrosequencing reveals protistan parasite diversity in ships’ ballast water.” Joint Aquatic Sciences Meeting, Portland, Oregon.
- 2014 **KM Pagenkopp Lohan**, RC Fleischer, KM Hill, ME Torchin, KK Holzer, KJ Carney, & GM Ruiz “Anthropogenic influences on the biogeography of marine protistan parasites.” International Symposium on the Ecology and Evolution of Marine Parasites and Diseases, Den Burg, Texel, Netherlands.
- 2013 ***KM Pagenkopp Lohan** “From crustaceans to bivalves: using molecular tools to examine disease

- ecology.” Invited seminar for the Smithsonian Conservation Biology Institute Seminar Series, Washington, DC.
- 2013 ***KM Pagenkopp Lohan** “Assessing microbial populations in different aquatic habitats.” Invited lecture for Noninvasive Genetics Course, Smithsonian Conservation Biology Institute, Washington, DC.
- 2013 **KM Pagenkopp Lohan**, RC Fleischer, KK Holzer, KJ Carney, & GM Ruiz “Protistan diversity in ballast water revealed by amplicon-based 454 pyrosequencing.” The 88th Annual Meeting of the American Society of Parasitologists, Quebec City, Canada.
- 2012 HJ Small, KS Reece, GD Stentiford, J Xiao, **KM Pagenkopp Lohan**, K Bateman, W Xu, JD Shields “Global diversity and distribution of *Hematodinium* spp.- significant pathogens of commercially exploited crustaceans.” The 87th Annual Meeting of the American Society of Parasitologists, Richmond, VA.
- 2011 **KM Pagenkopp**, JD Shields, Terrence Miller, HJ Small, Allen Place, & Kimberly Reece “Strain variation of *Hematodinium*, a parasitic dinoflagellate of the blue crab (*Callinectes sapidus*) along the Delmarva Peninsula, VA”. The 103rd Annual Meeting of the National Shellfisheries Association, Baltimore, MD.
- 2011 **KM Pagenkopp**, KS Reece, TL Miller, KN Wheeler, HJ Small, & JD Shields “The role of alternate hosts in the ecology and life history of *Hematodinium*, a parasitic dinoflagellate of the blue crab (*Callinectes sapidus*)”. The 103rd Annual Meeting of the National Shellfisheries Association, Baltimore MD. *poster*
- 2010 **KM Pagenkopp**, JD Shields, J Xiao, TL Miller, HJ Small, A Place, & KS Reece “The frequency and distribution of genetic strains of *Hematodinium*, a parasitic dinoflagellate of the blue crab (*Callinectes sapidus*) along the Delmarva Peninsula, VA.” The 6th International Symposium on Aquatic Animal Health, Tampa, FL.
- 2010 **KM Pagenkopp**, JD Shields, TL Miller, HJ Small, A Place, & KS Reece “Strain variation, frequency, and distribution of *Hematodinium*, a parasitic dinoflagellate of the blue crab (*Callinectes sapidus*) along the Delmarva Peninsula, VA”. Ecology and Evolution of Infections and Disease, Cornell University, Ithaca, NY. *poster*
- 2010 **KM Pagenkopp**, KS Reece, TL Miller, KN Wheeler, HJ Small, & JD Shields “The role of alternate hosts in the ecology and life history of *Hematodinium*, a parasitic dinoflagellate of the blue crab (*Callinectes sapidus*)”. Ecology and Evolution of Infectious Disease-PI meeting, Atlantic City, NJ. *poster*

CO-AUTHORS & COLLABORATORS

Robert Fleischer (SCBI-NZP), Gregory Ruiz (SERC), C. Drew Harvell (Cornell), Valerie Paul (SMSFP), Cliff Ross (U North Florida), Dan Martin, Jonathan Geller (MLML), Colleen Burge (IMET, UMD), J. Emmett Duffy (SERC, VIMS), Kristina Hill (College of Charleston), Matthew Ogburn (SERC), Kimberly Holzer (SERC), Ian Davidson (SERC), Whitman Miller (SERC), Denise Breitburg (SERC), John Darling (EPA), Katharine Carney (SERC), Mark Torchin (STRI), Ellen Strong (NMNH), Leopoldina Aguirre-Macedo (CINVESTAV-IPN), Victor Vidal Martinez (CINVESTAV-IPN), Ryan Carnegie (VIMS), Kim Reece (VIMS), Jeffrey Shields (VIMS), Hamish Small (VIMS), Jie Xiao (VIMS), Terrence Miller (James Cook University), Kersten Wheeler (Old Dominion University), Caiwen Li (Chinese Academy of Sciences), Jan McDowell (VIMS), Allen Place (UMBI), Ted Schultz (NMNH), Sean Brady (NMNH), John Klicka (University of Nevada, Las Vegas), Julie Garvin (Maui Forest Bird Recovery Project, HI), Kate Durrant (University of Nottingham)

ADVISORS

Robert Fleischer (SCBI-NZP, MS & Postdoctoral advisor), Kimberly Reece (VIMS, Ph.D. advisor), Jeffrey Shields (VIMS, Ph.D. advisor), Gregory Ruiz (SERC, Postdoctoral advisor)