

# Dr. Ashley Parks

Toxicologist

Toxicology Department

Southern California Coastal Water Research Project

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## Education

Ph.D., environment, Duke University, 2013

B.A., biochemistry, University of San Diego, 2008

## Professional Experience

Scientist, Southern California Coastal Water Research Project. Costa Mesa, CA. 2016-present

National Research Council Postdoctoral Research Associate, U.S. EPA Atlantic Ecology Division. Narragansett, RI. 2013-2016

Graduate Research Assistant, Duke University. Durham, NC. 2009-2013

Student Service Contractor, U.S. EPA Atlantic Ecology Division. Narragansett, RI. 2009-2012

Graduate Teaching Assistant, University of South Carolina. Columbia, SC. 2008

## Professional Appointments

Board Member, Society of Environmental Toxicology and Chemistry (SETAC), Southern California Chapter. 2019-present

Founding Co-Chair, SETAC Early Career Committee.

Reviewer for *Environmental Toxicology and Chemistry*, *Environmental Science: Nano*, *Chemosphere*, *Marine Pollution Bulletin* and Natural Environment Research Council-NERC

# Honors and Awards

Student Travel Award, International Conference on the Environmental Effects of Nanoparticles and Nanomaterials. 2010, 2012

Student Platform Presentation Award, 3rd place, International Conference on the Environmental Effects of Nanoparticles and Nanomaterials. 2010

Student Travel Award, Society of Environmental Toxicology and Chemistry. 2009

The Explorers Club Exploration Fund Grant. 2009

Outstanding Research Award, Department of Chemistry and Biochemistry, University of San Diego. 2008

# Professional Societies and Certifications

Society of Environmental Toxicology and Chemistry

American Chemical Society

Integrated Toxicology and Environmental Health Certificate, Duke University

PADI Advanced Open Water and Nitrox Diver Certifications

# Selected Presentations and Conference Proceedings

Parks A.N., D.J. Greenstein, K. McLaughlin, and K.C. Schiff. 2020. Sediment Quality Changes in the Southern California Bight: 1998-2018. Poster presentation at the SETAC North America 41<sup>st</sup> Annual Meeting. SciCon2 Virtual Meeting.

Parks A.N., D.J. Greenstein, and S.M. Bay. 2019. Impacts and interaction effects of sediment contamination and ocean acidification in *Eohaustorius estuarius*. Poster presentation at the SETAC North America Meeting. Toronto, ON, CA.

Parks A.N., W. Lao, E.J. Wenger, K. Maruya, C. Stransky, J. Leather, J. Carilli, and S.M. Bay. 2019. Influence of dissolved organochlorines on bioaccumulation in San Diego Bay, California. Poster presentation at the SETAC North America Meeting. Toronto, ON, CA.

Parks A.N. 2019. Influence of dissolved organochlorines on bioaccumulation in San Diego Bay, California. Invited speaker at the University of San Diego, Department of Chemistry and Biochemistry Summer Research Symposium. San Diego, CA.

Parks A.N. and S.M. Bay. 2019. Site-specific water quality objectives: Applications of water-effect ratios. Invited speaker at the Southern California SETAC Meeting. San Diego, CA.

Parks A.N., S.M. Bay. 2017. Assessment of sediment contaminant contribution to human health risk via bioaccumulation modeling. Platform presentation at the SETAC North America Meeting. Minneapolis, MN.

Parks A.N., M.A. Cashman, S. Fogg, M.G. Cantwell, D.R. Katz, K.T. Ho, and R.M. Burgess. 2016. Form and toxicity of copper released into marine systems from nano-sized copper treated lumber. Poster presentation at the SETAC North America Meeting. Orlando, FL.

Parks A.N., M.A. Cashman, M.G. Cantwell, D.R. Katz, K.T. Ho, and R.M. Burgess. 2015. Form and toxicity of copper released into aquatic systems from conventionally and nano-sized copper treated lumber. Poster presentation at the SETAC North America Meeting. Salt Lake City, UT.

Parks A.N., M.A. Cashman, M.G. Cantwell, D.R. Katz, K.T. Ho, and R.M. Burgess. 2015. Concentration and form of copper released into aquatic systems from commercial liquid and micronized pressure treated lumber. Platform presentation at the SETAC Europe Meeting. Barcelona, Spain.

Parks A.N., M.A. Cashman, M.G. Cantwell, D.R. Katz, K.T. Ho, and R.M. Burgess. 2014. Optimizing an experimental system for assessing the copper released into aquatic systems from commercial liquid and micronized pressure treated lumber. Poster presentation at the SETAC North America Meeting. Vancouver, BC, Canada.

Parks A.N., K. Liu, and P.L. Ferguson. 2013. Biodegradability of <sup>14</sup>C-SWNT by pure and mixed microbial cultures. Poster presented at the SETAC North America Meeting. Nashville, TN.

Parks A.N., L.M. Portis, J.C. Sullivan, R.M. Burgess, K.T. Ho, M.M. Perron, G.T. Chandler, and P.L. Ferguson. 2012. Single-walled carbon nanotubes decrease the toxicity and bioaccumulation of polychlorinated biphenyls in marine benthic invertebrates exposed to contaminated sediment. Poster presented at the SETAC North America Meeting. Long Beach, CA.

Parks A.N., P.A. Schierz, R.M. Burgess, K.T. Ho, L.M. Portis, M.M. Perron, M. Pelletier, K.M. Washburn, G.T. Chandler, and P.L. Ferguson. 2011. Using radiolabels for investigating the bioaccumulation and interaction effects of <sup>14</sup>C-SWNT and 3H-Ponasterone A in *Leptocheirus plumulosus*. Platform presentation at the SETAC North America Meeting. Boston, MA.

Parks A.N., P.A. Schierz, R.M. Burgess, K.T. Ho, M. Pelletier, L.M. Portis, M.M. Perron, G.T.

Chandler, and P.L. Ferguson. 2010. Trophic transfer and sublethal effects of single walled carbon nanotubes (SWNT) in an estuarine benthic food chain study. Platform presentation at the SETAC North America Meeting. Portland, OR.

Parks A.N., P.A. Schierz, R.M. Burgess, K.T. Ho, M. Pelletier, L.M. Portis, M.M. Perron, G.T. Chandler, and P.L. Ferguson. 2010. Toxicity and accumulation of single walled carbon nanotubes (SWNT) in an estuarine benthic food chain. Platform presentation at the International Conference on the Environmental Effects of Nanoparticles and Nanomaterials. Clemson, SC.

Parks A.N., P.A. Schierz, R.M. Burgess, K.T. Ho, M. Pelletier, M.M. Perron, G.T. Chandler, and P.L. Ferguson. 2009. Toxicity and accumulation of structurally diverse single-walled carbon nanotubes in *Ampelisca abdita* and *Americamysis bahia*. Platform presentation at the SETAC North America Meeting. New Orleans, LA.

## Journal Articles

Greenstein, D.J., A.N. Parks, S.M. Bay. 2018. Using spatial and temporal variability data to optimize sediment toxicity identification evaluation (TIE) study designs. *Integrated Environmental Assessment and Management* 15:248-258.

Parks, A.N., M.A. Cashman, M.M. Perron, L. Portis, M.G. Cantwell, D.R. Katz, K.T. Ho, R.M. Burgess. 2018. Magnitude of Acute Toxicity of Marine Sediments Amended with Conventional Copper and Nanocopper. *Environmental Toxicology* 9999:1-5.

Parks, A.N., M.G. Cantwell, D.R. Katz, M.A. Cashman, T.P. Luxton, K.T. Ho, R.M. Burgess. 2018. Assessing the Release of Copper from Nanocopper-Treated and Conventional Copper-Treated Lumber into Marine Waters I: Concentration and Rates. *Environmental Toxicology and Chemistry* 37:1956-1968.

Parks, A.N., M.G. Cantwell, D.R. Katz, M.A. Cashman, T.P. Luxton, J.G. Clar, M.M. Perron, L. Portis, K.T. Ho, R.M. Burgess. 2018. Assessing the release of copper from nanocopper-treated and conventional copper-treated lumber into marine waters II: Forms and bioavailability. *Environmental Toxicology and Chemistry* 37:1969-1979.

Ho, K.T., L.M. Portis, A.A. Chariton, M. Pelletier, M.G. Cantwell, D.R. Katz, M.A. Cashman, A.N. Parks, J.G. Baguley, N. Conrad-Forrest, W. Boothman, T. Luxton, S.L. Simpson, S. Fogg, R.M. Burgess. 2017. Effects of micronized and nano-copper azole on marine benthic communities. *Environmental Toxicology and Chemistry*. DOI: 10.1002/etc.3954.

Joyce, A.S., L.M. Portis, A.N. Parks, and R.M. Burgess. 2016. Evaluating the relationship between

equilibrium passive sampler uptake and aquatic organism bioaccumulation. *Environmental Science and Technology*. 50(21):11437-11451. DOI: 10.1021/acs.est.6b03273

Parks A.N., G.T. Chandler, K.T. Ho, R.M. Burgess, and P.L. Ferguson. 2015. Environmental biodegradability of [14C] single-walled carbon nanotubes by *Trametes versicolor* and natural microbial cultures found in New Bedford Harbor sediment and aerated wastewater treatment plant sludge. *Environmental Toxicology and Chemistry*. 34(2):247-251. DOI: 10.1002/etc.2791

Parks A.N., G.T. Chandler, L.M. Portis, J.C. Sullivan, M.M Perron, M.G. Cantwell, R.M. Burgess, K.T. Ho, and P.L. Ferguson. 2014. Effects of single-walled carbon nanotubes on the bioavailability of PCBs in field-contaminated sediments. *Nanotoxicology*. 8(S1):111-117. DOI: 10.3109/17435390.2013.858794

Parks A.N., R.M. Burgess, K.T. Ho, and P.L. Ferguson. 2014. On the likelihood of single-walled carbon nanotubes causing adverse marine ecological effects. *Integrated Environmental Assessment and Management*. 10(3):472-474. DOI: 10.1002/ieam.1540

Bisesi J.H., J. Merten, K. Liu, A.N. Parks, ARMN Afrooz, J.B.Glenn, S.J. Klaine, A.S. Kane, N.B. Saleh, P.L. Ferguson, and T. Sabo-Attwood. 2014. Tracking and quantification of single-walled carbon nanotubes in fish using near infrared fluorescence. *Environmental Science and Technology*. 48(3):1973-1983. DOI: 10.1021/es4046023

Parks A.N., L.M. Portis, P.A. Schierz, K.M. Washburn, M.M. Perron, R.M. Burgess, K.T. Ho, G.T. Chandler, and P.L. Ferguson. 2013. Bioaccumulation and toxicity of single walled carbon nanotubes to benthic organisms at the base of the marine food chain. *Environmental Toxicology and Chemistry*. 32(6):1270-1277. DOI: 10.1002/etc.2174

Schierz P.A., A.N. Parks, K.M. Washburn, G.T. Chandler, and P.L. Ferguson. 2012. Characterization and quantitative analysis of single-walled carbon nanotubes in the aquatic environment using near infrared fluorescence spectroscopy. *Environmental Science and Technology*. 46(22):12262-12271. DOI: 10.1021/es301856a

Yang S., A.N. Parks, S.A. Saba, P.L. Ferguson, and J. Liu. 2011. Photoluminescence from inner walls in double walled carbon nanotubes: Some do, some do not. *Nano Letters*. 11(10):4405-4410. DOI: 10.1021/nl2025745.

## Technical Reports

Parks, A.N., D.J. Greenstein, K. McLaughlin, K.C. Schiff. 2020. Southern California Bight 2018 Regional Monitoring Program: Volume I. Sediment Toxicity. Technical Report 1117. Southern California Coastal Water Research Project. Costa Mesa, CA.

Bay, S.M., A.N. Parks. 2020. Occurrence and Bioaccumulation of Dissolved Organochlorines in San Diego Bay. Technical Report 1109. Southern California Coastal Water Research Project. Costa Mesa, CA.

Gillett, D.J., A.N. Parks, S.M. Bay. 2019. Calibration of the Multivariate AZTI Marine Biotic Index (M-AMBI) for Potential Inclusion into California Sediment Quality Objective Assessments in San Francisco Bay. Technical Report 1070. San Francisco Estuary Institute. Richmond, CA.

Bay, S.M., D.J. Greenstein, A.N. Parks. 2018. Spatial and Temporal Variability in Sediment Toxicity Identification Evaluations. Technical Report 1014. Southern California Coastal Water Research Project. Costa Mesa, CA.

Bay, S.M., A.N. Parks, A.R. Melwani, B.K. Greenfield. 2017. Development of a Sediment Quality Assessment Framework for Human Health Effects. Technical Report 1000. Southern California Coastal Water Research Project. Costa Mesa, CA.

Bay, S.M., D.J. Greenstein, A.N. Parks, C.Q.T. Zeeman. 2016. Assessment of Bioaccumulation in San Diego Bay. Technical Report 953. Southern California Coastal Water Research Project Authority. Costa Mesa, CA.