**Rachel Todd Noble**

Mary and Watts Hill Jr. Distinguished Professor

UNC-Chapel Hill, Institute of Marine Sciences

3431 Arendell Street

Morehead City, NC 28557

Ph: +1 (252) 726-6841 x150

Email: [rtnoble@email.unc.edu/www.noble.unc.edu](mailto:rtnoble@email.unc.edu/www.noble.unc.edu)

**(a) Professional Preparation**

Carnegie Mellon University, Pittsburgh Biological Sciences B. Sc. 1991

University of So. California (USC), Los Angeles Biological Sciences Ph. D.1998

SCCWRP/ USC Postdoctoral Scholar Biological Sciences 1998-2001

**(b) Academic/Professional Appointments**

***2015- Present Mary and Watts Hill Jr. Distinguished Professor***

University of North Carolina at Chapel Hill, Institute of Marine Sciences: Joint appointment between the Institute of Marine Sciences and the Institute for the Environment

***2012-2015 Full Professor***

University of North Carolina at Chapel Hill, Institute of Marine Sciences: Joint appointment between the Institute of Marine Sciences and the Institute for the Environment

**(c) Products (five recent relevant literature products, out of 100 total)**

Landrigan PJ, Stegeman JJ, Fleming LE, Allemand D, Anderson DM, Backer LC,

Brucker-Davis F, Chevalier N, Corra L, Czerucka D, Bottein M-YD, Demeneix B, Depledge M, Deheyn DD, Dorman CJ, Fénichel P, Fisher S, Gaill F, Galgani F, Gaze WH, Giuliano L, Grandjean P, Hahn ME, Hamdoun A, Hess P, Judson B, Laborde A, McGlade J, Mu J, Mustapha A, Neira M, **Noble RT**, Pedrotti ML, Reddy C, Rocklöv J, Scharler UM, Shanmugam H, Taghian G, van de Water JAJM, Vezzulli L, Weihe P, Zeka A, Raps H, Rampal P. Human Health and Ocean Pollution. Annals of Global Health. 2020; 86(1): 151, 1–64. DOI: <https://doi.org/10.5334/aogh.2831>

Hart, J. D., Blackwood, A. D. and **R. T. Noble**. 2020. Examining coastal dynamics and recreational water quality by quantifying multiple sewage specific markers in a North Carolina estuary. Science of The Total Environment. Volume 747: 141124. ISSN 0048-9697. <https://doi.org/10.1016/j.scitotenv.2020.141124>.

Bivins, A., North, D., Ahmad, A., Ahmed, W., Alm, E., Been, F., Bhattacharya, P., Bijlsma, L., Boehm, A. B., Brown, J., Buttiglieri, G., Calabro, V., Carducci, A., Castiglioni, S., Cetecioglu Gurol, Z., Chakraborty, S., Costa, F., Curcio, S,….**R.T. Noble** … Bibby, K. (2020). Wastewater-Based Epidemiology: Global Collaborative to Maximize Contributions in the Fight Against COVID-19. *Environmental Science & Technology*, *54*(13), 7754–7757. <https://doi.org/10.1021/acs.est.0c02388>

Seruge, J., Wong, M., **Noble, R. T.,** Blackwood, A. D., Moravcik, P. S. and M. Kirs. 2019. Application of a rapid qPCR method for enterococci for beach water quality monitoring purposes in Hawaii: Loss of DNA during the extraction protocol due to coral sands, Marine Pollution Bulletin, Volume 149,110631,ISSN 0025-326X, <https://doi.org/10.1016/j.marpolbul.2019.110631>.

Jesser, K. J., W. Valdiva-Granda, J. Jones, **R.T. Noble**. Clustering of Vibrio parahaemolyticus isolates using MLST and whole-genome phylogenetics and protein motif fingerprinting. Frontiers in Public Health. 2019 <https://doi.org/10.3389/fpubh.2019.00066>

**(c) Products (five additional products, including collaborative tools)**

Sivaganesan M, Aw TG, Briggs S, Dreelin E, Aslan A, Dorevitch S, Shrestha A, Isaacs N, Kinzelman J, Kleinheinz G, **Noble R**, Rediske R, Scull B, Rosenberg S, Weberman B, Sivy T, Southwell B, Siefring S, Oshima K, Haugland R. Standardized data quality acceptance criteria for a rapid Escherichia coli qPCR method (Draft Method C) for water quality monitoring at recreational beaches. Water Res. 2019 Jun 1;156:456-464. doi: 10.1016/j.watres.2019.03.011. Epub 2019 Mar 15. PMID: 30952079.

Aw, T. G., Sivaganesan, M., Briggs, S., Dreelin, E., Aslan, A., Dorevitch, S., Shrestha, A., Isaacs, N., Kinzelman, J., Kleinheinz, G., **Noble, R**., Rediske, R., Scull, B., Rosenberg, S., Weberman,B., Sivy, B., Southwell, B., Siefring, S., Oshima, K. R. A. Haugland. 2019. Evaluation of multiple laboratory performance and variability in analysis of recreational freshwaters by a rapid Escherichia coli qPCR method (Draft Method C),Water Research,Volume 156, Pages 465-474, ISSN 0043-1354, <https://doi.org/10.1016/j.watres.2019.03.014>

Froelich, B. A., Gonzalez, R., Blackwood, D., Lauer, K. and **R. T. Noble**. 2019. Decadal monitoring reveals an increase in Vibrio spp. concentrations in the Neuse River Estuary, North Carolina, USA. PLoS One. Decadal monitoring reveals an increase in Vibrio spp. concentrations in the Neuse River Estuary, North Carolina, USA. https://doi.org/10.1371/journal.pone.0215254

Steele J.A., Blackwood, A. D., Griffith, J. F. , **Noble, R. T.** and K. C. Schiff. 2018. Quantification of pathogens and markers of fecal contamination during storm events along popular surfing beaches in San Diego, California. Water Research. 136:137-149.

Williams, T. Froelich, B. Phippen\*, B. Fowler, P., **Noble, R. T.** and J. D. Oliver. 2017. Different abundance and correlation patterns exist between total and presumed pathogenic *V. vulnificus* and *V. parahaemolyticus* in shellfish and waters along the North Carolina coast. FEMS Microbiol Ecol. 2017 Jun 1;93(6). doi: 10.1093/femsec/fix071.

**(d) Synergistic and Collaborative Activities**

Co-Developer, Adopt-A-Drain App, in collaboration with Dr. Liz DeMattia (Duke University). This interactive app permits quantification of materials during storms into storm conveyance systems, and is a mechanism for engagement of K-12 and the public

Director, UNC Chapel Hill Institute for the Environment Morehead City Field Site (2003-2019), intense marine science experiential learning program for undergraduates that highlights computer, laboratory, and field-based learning as well as commercialization and technology transfer

Steering Committee, Water Microbiology Conference, Water Institute, 2014-2019

Session Chair, AGU/ASLO Ocean Sciences Meeting, Oceans and Human Health 2020

ASTM, Section D19 Voting Representative in Regulatory Affairs for Water

Recipient of US Patent **US Patent:** Methods and compositions for the detection and quantification of *E. coli* and *Enterococcus*. US2008/0233572. 2012.