

## BOWEN, JAMES D.

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### Professional Preparation

- Duke University, Botany, AB, 1979
- Vanderbilt University, Civil and Environmental Engineering, M.S., 1983
- Massachusetts Institute of Technology, Civil Engineering, Ph.D., 1990

### Appointments

- 2003** – Associate Professor, Dept. of Civil and Environmental Engineering, UNC Charlotte, Charlotte NC.
- 1996 – 2003** Assistant Professor, Engineering Technology Department (1996-2000), Civil Engineering Department, UNC Charlotte, Charlotte NC.
- 1990 – 1996** ENSR Consulting and Engineering, Acton, Massachusetts. Project Manager/Surface Water Quality Section Manager.
- 1992 – 2000** Lecturer/Adjunct Professor, Tufts University (1992-1994), Massachusetts Institute of Technology (1994-1995), Duke University (2000).
- 1990 - 1996** ENSR Consulting and Engineering, Acton, Massachusetts. Project Manager/Surface Water Quality Section Manager.
- 1984 - 1989** Department of Civil Engineering, Massachusetts Institute of Technology, Cambridge, Massachusetts. Research Assistant.

### Recent Publications

- Kim, Dongwook, Bowen, James D., and Kinnear, David. 2015. Comprehensive numerical modeling of greenhouse gas emissions from water resource recovery facilities. *Water Environment Research*. 87(11), 1955-1969.
- Kim, Dongwook, Bowen, James D., and Ozelkan, Ertunga C. 2015. Optimization of wastewater treatment plant operation for greenhouse gas mitigation. *Journal of Environmental Management*, Vol. 163, 1 Nov 2015, 39-48.
- Bowen, J.D., Perry, D.N. and Bell, C.D. 2014. Hydrologic and Water Quality Model Development Using Simulink. *Journal of Marine Science and Engineering* 2(4), 616-632.
- Froelich, Brett, James Bowen, Raul Gonzalez, and Rachel Noble. 2013. Mechanistic and Statistical Models of Total *Vibrio* Abundance in the Neuse River Estuary, *Water Research* 47 (15), 5783-5793.
- Bowen, J. D. and N. Rajbhandari. 2012. Estimating Dissolved Oxygen Depletion from Anthropogenic and Riverine Loading Using a Three-Dimensional Water Quality Model, In: *Estuarine and Coastal Modeling: Proceedings of the 12th International Conference*, pp. 274-294. Spaulding, Malcolm L., (ed.), American Society of Civil Engineers, New York, NY. doi: <http://dx.doi.org/10.1061/9780784412411.00017>

## Other Publications

- Hieronimus, J., and J. D. Bowen. 2005. Calibration and Verification of a Two-Dimensional, Laterally Averaged Mechanistic Model of the Neuse River Estuary, Report No. 343-C, UNC Water Resources Research Institute, N. C. State Univ., Raleigh, NC.
- Bowen, J. D., and J. W. Hieronimus. 2003. A CE-QUAL-W2 Model of Neuse Estuary for Total Maximum Daily Load Development. *J. of Water Resources Planning and Management*. 129(4): 283-294.
- Stow, C. A., C. Roessler, M. E. Borsuk, J. D. Bowen, and K. H. Reckhow. 2003. Comparison of Estuarine Water Quality Models for Total Maximum Daily Load Development in Neuse River Estuary. *J. of Water Resources Planning and Management*. 129(4): 307-314.
- Bowen, James D., and Hieronimus, Jeffrey W. 2000. Neuse River Estuary Modeling And Monitoring Project Stage 1: Predictions and Uncertainty Analysis of Response to Nutrient Loading Using a Mechanistic Eutrophication Model. Report 325-D, Water Resources Research Institute of the University of North Carolina, Raleigh, NC.
- Bowen, J.D., K.D. Stolzenbach, and S.W. Chisholm. 1993. Simulating Bacterial Clustering Around Phytoplankton in a Turbulent Ocean. *Limnology and Oceanography*. 38(1): 36 - 51.
- Bowen, J. D., and Stolzenbach, K. D. 1992. The Concentration Distribution Near a Continuous Point Source in Steady Homogeneous Shear. *Journal of Fluid Mechanics*. Vol. 95, p. 95 - 110.

## Synergistic Activities

Member ASLO, ERF, AGU, ASCE, ASEE. Stakeholder Group Member, Charlotte/Mecklenburg Post-Construction Controls Ordinance Development (2004-2006). Member, Charlotte Mecklenburg Stormwater Advisory Committee. Member, NC Nutrient Criteria Development Plan, Science Advisory Board. Frequent reviewer for Water Research, Estuarine and Coastal Shelf Science, Environmental Management, *J. of Environmental Management*, UNC Charlotte College of Engineering, Graduate (2003) and Undergraduate (2007) Excellence in Teaching Awards, UNC Charlotte Provost's Award for Teaching Excellence (2014, Dept. award), Site coordinator for a seasonal homeless shelter at Avondale Presbyterian Church (2010-2014).

## Collaborators and Other Affiliations

**Collaborators and Co-Editors:** J. Daniels, H. Hilger, J. Wu – UNC Charlotte; B. Borden, R. Ranjithan - NCSU; M. Alperin, G. Characklis, R. Luettich, R. Noble, H. Paerl, M. Piehler, University of North Carolina; K. Reckhow - Duke U.; C. Stow - GRERL.; M. Borsuk – Dartmouth College; G. Feuillade, G. Matejka, S. Chambon – U. Limoges, R. Rozzelle, D. Kroening – Mecklenburg Co. Water Quality Program. **Graduate Advisors:** S.W. Chisholm – M.I.T.; K. Stolzenbach – UCLA; A.D. Koussis, Nat. Observatory of Athens, Greece; F. Parker – Vanderbilt U. **Ph.D/Masters Dissertation/Thesis Advisor :** (Ph.D) J. Hattaway, D. Kim, W. Saunders – UNC Charlotte; M. Leloup – U. Limoges; D. Mama – U. d'Abomey-Calavis; G. Das – Wentworth Inst. of Tech.; M. Borsuk – Dartmouth Coll.; (Masters) W. Shull, M. Knobsy – HDR, D. Chen – City of Decatur, GA.; S. Negusse – Texas Water Development Board, N. Madding, B. Duclaud, R. Guyer, T. Goforth, UNC Charlotte; J. Hieronimus, S. Wilkerson - Charlotte Storm Water Services; L. Sickles, B. Sinha, D. Bost – City of Charlotte, J. Keaton – ENTRIX; N. Hampton, G. Kimble, G. Brant – Charlotte Water; S. Manian – Black and Veatch; M. C. Williams, V. Nimmala – Dewberry.