

Mary E. Davis, Associate Professor

Department of Urban and Environmental Policy and Planning
Tufts University
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Education

Harvard School of Public Health

*Post-Doctoral Research Fellow
Environmental Health*

Boston, Massachusetts
October 2003 – August 2004

University of Florida

Ph.D. Economics

Gainesville, Florida
Graduation, August 2003

University of Miami

*B.A. Economics and International Studies
Minors: Spanish and French*

Coral Gables, Florida
Graduation, May 1998

Academic Positions

Tufts University

*Associate Professor,
Dept of Urban and Environ Policy & Planning*

Medford, Massachusetts
September 2012 – Present

Tufts University

*Assistant Professor,
Dept of Urban and Environ Policy & Planning*

Medford, Massachusetts
August 2008 – August 2012

Harvard School of Public Health

*Visiting Scientist,
Dept of Environmental Health*

Boston, Massachusetts
September 2004 – Present

Woods Hole Oceanographic Institution

*Senior Research Fellow,
Marine Policy Center*

Woods Hole, Massachusetts
August 2010 – July 2011

University of Maine

*Adjunct Assistant Professor,
School of Economics*

Orono, Maine
September 2008 – Present

University of Maine

*Assistant Professor,
School of Economics*

Orono, Maine
August 2006 – August 2008

University of Massachusetts Boston

*Assistant Professor,
Dept of Environmental Earth and Ocean Sciences*

Boston, Massachusetts
September 2004 – August 2006

Other Positions

- Executive Planning Committee Member, **Consortium of Universities for Global Health Conference** (CUGH) 2013
- Board Member, Northeast Fishing Safety Advisory Board, **Northeast Center for Agricultural and Occupational Health** (2012-Present)
- Project Panel Chair, **National Academy of Sciences**, Transportation Research Board, “Evaluating the Impact of Aviation Noise on Learning – Case Studies” (2013-Present)
- Project Panel Chair, **National Academy of Sciences**, Transportation Research Board, “Evaluating the Impact of Aviation Noise on Learning” (2009-2013)
- Project Panel Member, **National Academy of Sciences**, Transportation Research Board, “Quantifying Contribution to Local Air Quality Impacts from Airport-Related Emissions” (2007-2012)
- Editorial Board Member, **International Journal of Applied Environmental Sciences** (2004-Present)

Peer-Reviewed Journal Publications

- Hart JE, Garshick E, Smith TJ, **Davis ME**, and F Laden. “Ischemic Heart Disease Mortality and Vehicle Exhaust in Trucking Industry Workers,” *Occupational and Environmental Medicine* Vol. 70: 523-528 (2013).
- Smith TJ, **Davis ME**, Hart JE, Blicharz A, Laden F, and E Garshick. “Potential Air Toxics Hot Spots in Truck Terminals and Cabs.” Health Effects Institute (2012).
- E Garshick, Laden F, Hart JE, **Davis ME**, Eisen EA, Smith TJ. “Lung Cancer and Elemental Carbon Exposure in Trucking Industry Workers,” *Environmental Health Perspectives*, Vol. 120(9): 1301-1306 (2012).
- Davis ME**. “Recessions and Health: The Impact of Economic Trends on Air Pollution in California,” *American Journal of Public Health*, Vol. 102(10): 1951-1956 (2012).
- Davis ME**. “Structural Equation Models in Occupational Health: An Application to Exposure Modeling,” *Occupational and Environmental Medicine*, Vol. 69:184-190 (2012).
- Davis ME**. “Occupational Safety and Regulatory Compliance in US Commercial Fishing,” *Archives of Environmental and Occupational Health*, Vol. 66(4): 209-216 (2011).
- Zhu, Y, Smith, TJ, **Davis, ME**, Levy, JI, Herrick, R, and H Jiang. “Comparing Gravimetric and Real-Time Sampling of PM_{2.5} Concentrations Inside of Truck Cabins,” *Journal of Occupational and Environmental Hygiene*, Vol. 8(11):662-672 (2011).
- Davis ME**. “Perceptions of Occupational Risk by US Commercial Fishermen,” *Marine Policy*, Vol. 36:28-33 (2012).
- Davis ME**, Hart JE, Laden F, Garshick E, and TJ Smith. “A Retrospective Assessment of Occupational Exposure to Elemental Carbon in the US Trucking Industry,” *Environmental Health Perspectives*, Vol. 119(7):997-1002 (2011).
- Davis ME**, Laden F, Hart JE, Garshick E, and TJ Smith. “Economic Activity and Ambient Air Pollution Trends,” *Environmental Health Perspectives*, Vol. 118(5):614-619 (2010).
- Davis ME**. “Economic Assessment of Children’s Health and the Environment in Maine,” *Maine Policy Review*, Vol. 19(1):36-45 (2010).
- Davis ME**, Laden F, Hart JE, Garshick E, Blicharz AP, and TJ Smith. “Predicting Changes in PM Exposure over Time using Structural Equation Modeling Techniques,” *Journal of Occupational and Environmental Hygiene*, Vol. 6(7):396-403 (2009).
- Garshick E, Laden F, Hart JE, Rosner B, **Davis ME**, Eisen EA, and TJ Smith. “Lung Cancer and Vehicle Exhaust in Trucking Industry Workers,” *Environmental Health Perspectives*, Vol. 116(10):1327-1332 (2008).
- Davis ME**, Smith TJ, Laden F, Hart JE, Reaser, P, and E Garshick. “Driver Exposure to Combustion Particles in the US Trucking Industry,” *Journal of Occupational and Environmental Hygiene*, Vol. 4(11): 848-854 (2007).

- Davis ME**, Blicharz AP, Hart JE, Laden F, Garshick E and TJ Smith. “Occupational Exposure to Volatile Organic Compounds and Aldehydes in the US Trucking Industry,” *Environmental Science and Technology*, Vol. 41(20):7152-7158 (2007).
- Laden F, Hart JE, Smith TJ, **Davis ME**, and E Garshick. “Cause Specific Mortality in the Unionized US Trucking Industry,” *Environmental Health Perspectives*, Vol. 115(8):1192-1196 (2007).
- Davis ME**. “U.S. Environmental Politics: A Study of State Toxic Metal Water Quality Standards,” *Journal of Environmental Policy and Planning*, Vol. 9(2):143-163 (2007).
- Garcia R, Hart JE, **Davis ME**, Reaser P, Natkin J, Laden F, Garshick E, and TJ Smith. “Effects of Wind on Background Particle Concentrations at Truck Freight Terminals,” *Journal of Occupational and Environmental Hygiene*, Vol. 4:36-38 (2007).
- Smith TJ, **Davis ME**, Reaser P, Hart JE, Laden F, Heff A, and E Garshick. “Overview of Particulate Exposures in the US Trucking Industry,” *Journal of Environmental Monitoring*, Vol. 8(7):711-720 (2006).
- Davis ME**, Smith TJ, Laden F, Hart JE, Ryan L, and E Garshick. “Modeling Particle Exposure in U.S. Trucking Terminals,” *Environmental Science and Technology*, Vol. 40(13):4226-4232 (2006).
- Bowen B, Frankic A, and **ME Davis**. “Coastal Impacts, Marine Resources and Human Health,” *Oceanography*, Vol. 19(2):28-37 (2006).
- Davis ME**. “Environmental Politics in the US: A Study of State Sulfur Dioxide Standards,” *Journal of Environmental Assessment Policy and Management*, Vol. 7(3):331-354 (2005).

Other Publications

- Davis ME**. “Occupational Safety and Health in Haiti’s Apparel Sector: Third Year Follow-up.” Report to the International Labor Organization and Better Work, Geneva, Switzerland, October 2013.
- Davis ME**. “Occupational Safety and Health in Haiti’s Apparel Sector: Second Year Follow-up.” Report to the International Labor Organization and Better Work, Geneva, Switzerland, August 2012.
- Davis ME**. “Fishing Vessel Safety and Fisheries Management: A Survey of Fishing Vessel Safety and Risk Taking Behaviors.” Report to the NOAA Cooperative Institute for the North Atlantic Region (CINAR) and The Fishing Partnership, August 2012.
- Backus A, and **ME Davis**. “Occupational Safety in the Maine Commercial Fishing Industry: Status Report and Policy Recommendations.” Report to the Maine Commercial Fishing Safety Council and US Coast Guard District 1 for work under Sea Grant project, July 2011.
- Davis ME**. “Case Study on Occupational Safety and Health in Haiti’s Apparel Sector.” Report to the International Labor Organization and Better Work, Geneva, Switzerland, March 2011.
- Davis ME**. “An Economic Cost Assessment of Environmentally-Related Childhood Diseases in Maine.” University of Maine, School of Economics Staff Paper 579, published online February 2009. Report was subjected to peer-review.
- Davis ME**. “The Economic Burden of Childhood Exposure to Secondhand Smoke in Maine,” University of Maine, School of Economics Staff Paper 570, published online October 2007. Report was subjected to peer-review.
- Davis ME**. “The Politics of the Environment: An Analysis of State Regulations and Special Interest Behavior,” Doctoral Dissertation, Department of Economics, University of Florida, August 2003.

Publications in Progress

- Davis ME. “Impact of the 1970s Oil Crises on Air Pollution and Respiratory Health Outcomes. Co-author with Armstrong JL et al. “Determinants of Exposure in Air, Glove, and Surfaces in Multiple Beryllium Facilities: A Comparison of Mixed and Structural Equation Modeling Techniques.” Co-author with Cavallari, JM et al. “Variability of elemental carbon, organic carbon and PM_{2.5} exposure levels within and between small terminals within the US trucking industry” Co-author with McDonough AR et al. “Exposure to Diesel Emissions on Commercial

Fishing Vessels Before and After Engine Retrofitting.”

Co-author with A Bello et al. “Real-time Characterization of Volatile Organic Compounds at US Trucking Terminals.”

Co-Author with Walker E et al. “Exposure to ultrafine particles in the US Trucking Industry.” Target journal: Environmental Science and Technology.

Research Grants Awarded

International Labor Organization ILO-IFC Better Work Program Impact Assessment Role: Co-PI (Total grant: \$164,709)	Brown (PI)	4/1/13-3/30/16
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Northeast Sea Grant College Consortium Decision-Support for the Economic Analysis of Trade-offs in Coastal and Marine Spatial Planning (CMSP) for the US Northeast Region Role: Co-PI (Total grant: \$300,052)	Hoagland (PI)	2/1/12-1/31/14
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NOAA Northeast Fisheries Science Center Fishing Vessel Safety and Fisheries Management Role: Co-PI (Total contract: \$60,000)	Davis/Jin (Co-PI)	8/1/11-7/31/12
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International Labor Organization ILO-IFC Better Work Program Impact Assessment Role: Co-PI (Total grant: \$78,385)	Brown (PI)	5/1/11-6/30/12
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International Labor Organization ILO-IFC Better Work Program Impact Assessment Role: Consultant (Total grant: \$163,131)	Brown (PI)	7/1/09-3/31/11
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R01 NIH/NIEHS Biomarkers of Exposure and Effect in a Traffic Exposed Population Role: Co-Investigator (Total grant: ~\$1,750,000)	Laden (PI)	7/1/08-6/30/12
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NOAA Sea Grant Safety and Compliance in the Maine Commercial Fishing Industry Role: Principal Investigator (Total grant: \$212,130)	Davis (PI)	2/1/08-4/31/12
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Alliance for a Clean and Healthy Maine An Economic Cost Assessment of Environment-Related Childhood Diseases in Maine Role: Principal Investigator (Total contract: \$13,000)	Davis (PI)	10/1/08-2/1/09
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Faculty Research Awards

Tufts Faculty Research Award, Awarded October 2012
Air Pollution Monitoring in the Developing World: A Case Study in Haiti
Total award: \$5,000

Tufts Provost Open Access Fund, Awarded May 2012
Publication in journal *American Journal of Public Health*
Total award: \$1,500

Tufts Provost Open Access Fund, Awarded May 2011
Publication in journal *Environmental Health Perspectives*
Total award: \$660

Tufts Summer Faculty Fellowship, Awarded June 2010
The Relationship between Economic Trends and Air Pollution over Time
Total award: \$7,000

Tufts Faculty Research Award, Awarded October 2008
Safety and Compliance in the Commercial Fishing Industry
Total award: \$3,000

University of Massachusetts Proposal Development, Awarded May 2005
Risk Assessment of Quincy Bay Seafood
Total award: \$10,000

Invited Presentations

CDC/National Institute for Occupational Safety and Health, Morgantown, WV, 8/19/13
Tufts University Ex-College, Taste of Tufts, **Tufts University**, Medford, MA 3/1/13
Tufts Institute for the Environment, **Tufts University**, Medford, MA, 3/7/12
Department of Environmental and Occupational Health, **Drexel University**, Philadelphia, PA, 11/15/11
Department of Environmental and Occupational Health, **George Washington University**, D.C., 11/14/11
Department of Urban and Environmental Policy and Planning, **Tufts University**, Medford, MA, 9/21/11
Environment and Natural Resources Committee, **Maine State Legislature**, Augusta, ME, 3/29/11
Department of Urban and Environmental Policy and Planning, **Tufts University**, Medford, MA, 2/9/11
School of Economics, **University of Maine**, Orono, ME, 12/10/10, 2/6/09, 3/23/07, 3/29/06
National Marine Fisheries Service, Woods Hole, MA, 11/3/10
Department of Environmental and Occupational Health, **Emory University**, Atlanta, GA, 2/26/10
Board of Environmental Protection, **Maine State Legislature**, Augusta, ME, 12/17/09
Department of Civil and Environmental Engineering, **Tufts University**, 12/1/09
International Conference on Soils, Sediments, Water, and Energy, **University of Massachusetts**, 10/19/09
Centre for Research in Environmental Epidemiology (CREAL), Barcelona, Spain, 5/13/09
Department of Environmental Health, **Harvard School of Public Health**, Boston, MA, 4/28/09
Health and Human Services Subcommittee, **Maine State Legislature**, Augusta, ME, 3/25/09, 1/22/08
Department of Urban Environmental Policy and Planning, **Tufts University**, Medford, MA, 1/28/08
Maine Sea Grant Symposium, Orono, ME, 4/28/08
John Bapst High School (Keynote Graduation Speaker), Bangor, ME, 6/9/08
Department of Applied Medical Sciences, **University of Southern Maine**, 5/10/07

References in Popular Press

Tufts Daily, "Taste of Tufts: Davis merges economics, environmental health to assess work hazards," by Hannah Fingerhut, 3/4/13.
Tufts Magazine, "Diesel Fume Dangers", by David Levin, Winter 2013
TuftsNow, "Lethal Exhaust," by Gail Bambrick, 10/19/12
TuftsNow, "New Model Could Help Fill Data Gap in Predicting Historical Air Pollution Exposure," by Alexander Reid, 9/12/12
TuftsNow, "Do Bad Times Promote Good Health," by Gail Bambrick, 12/19/11
Portland Press Herald, "The Killer Catch: Groundfishing in Atlantic the Deadliest by Far," by Beth Quimby, 9/17/10
Bangor Daily News, "A New Approach to Fighting Maine's Invisible Enemy," guest column by **Mary Davis** and Sharon Tisher, 4/29/10
Commercial Fisheries News, "ME Study Looks at Safety Equipment, Training," by Ann Backus, March 2010 issue

Portland Press Herald, "Study: Contaminant-Caused Diseases Costly," by John Richardson, 2/6/09
Bangor Daily News, "Children's Illnesses from Pollution Cost Mainers \$380 Million," by Meg Haskell, 2/6/09
Maine Public Broadcasting Network, "Research Finds High Costs of Environmentally-Related Diseases," by Tom Porter, 2/6/09
Live TV interview on WABI-TV Channel 5 (CBS/CW affiliate in Bangor, Maine), 2/6/09
TV interview with WFVX Channel 7 (ABC/Fox affiliate in Bangor, Maine), 2/6/09
UMaine Today Magazine, "Safety in Numbers" (cover story), by Tom Weber, May 2008 issue
Live radio interview with Maine in the Morning FM Radio 103.9 George Hale and Ric Tyler, 10/26/07
Bangor Daily News, "Secondhand smoke costs Mainers plenty, study finds," by Meg Haskell, 10/24/07
Boston Globe, "Efforts to outlaw smoking shift from public to private spaces," by Jodie Huang, 10/21/07
Portland Press Herald, "No-smoking efforts hit cars, residences," by Jodie Huang, 10/21/07
Maine Public Radio, "Smoking in Cars Bill Set for Legislative Debate," by Murray Carpenter, 10/21/07

Recent Conference Participation

American Economic Association, Philadelphia, January 2014
Consortium of Universities for Global Health, Washington D.C., March 2013
Society for Risk Analysis, Salt Lake City, UT, December 2010
Maine Fishermen's Forum, Rockland, ME, March 2010
International Society for Exposure Analysis Annual Conference, Minneapolis, MN, November 2009
Allied Social Sciences Association Annual Conference, New Orleans, LA, January 2008
International Society for Exposure Analysis Annual Conference, Durham, NC, October 2007
International Conference on Environmental Epidemiology and Exposure, Paris, France, September 2006

Professional Affiliations

Sigma Xi Scientific Research Society
International Society for Exposure Science (ISES)
American Economic Association (AEA)
Association of Environmental and Resource Economists (AERE)
Society for Risk Analysis

Graduate Teaching Experience

Tufts University (5 is highest evaluation)
Spring 2014: Economics for Policy and Planning, UEP 251
Public Health and the Built Environment, UEP 294
Spring 2013: Economics for Policy and Planning, UEP 251 (grad)
Integrative Seminar, Master of Public Policy (UEP 289)
Fall 2012: Environmental Health for Policy and Planning, UEP 294-16 (grad)
Spring 2012: Economics for Planning and Policy Analysis, UEP 251 (grad)
Fall 2011: Environmental Health for Policy and Planning, UEP 294-16 (grad); eval. 4.1
Spring 2010: Quantitative Reasoning for Policy and Planning, UEP 254 (grad); eval. 3.5
Fall 2009: Economics for Planning and Policy Analysis, UEP 251 (grad); eval. 4.4
Intermediate Quantitative Reasoning, UEP 258 (grad); eval. 4.0
Spring 2009: Quantitative Reasoning for Policy and Planning, UEP 254 (grad); eval. 4.4
Fall 2008: Economics for Planning and Policy Analysis, UEP 251 (grad); eval. 4.5
Summer session 2008, 2009, 2010: UEP Math Refresher Course

University of Maine (5 is highest evaluation)

Spring 2008: Senior Seminar, REP 489 (undergrad) eval. 4.4
Spring 2008: Advanced Resource Economics, REP 571 (grad); eval. 4.7

Fall 2006: Advanced Resource Economics, REP 571 (grad); eval. 4.8

University of Massachusetts Boston (5 is highest evaluation)

Spring 2006: Risk Analysis and Environmental Health, ECOS 697 (grad); eval. 4.5

Fall 2005: Introduction to Applied Statistics, ECOS 601 (grad); eval. 4.9

Spring 2005: Introduction to Oceanography, E&GS 226 (undergrad); eval. 4.1

University of Florida (5 is highest evaluation)

Summer 2003: Managerial Economics, ECP 3703 (undergrad); eval. 4.5

Summer 2002: Managerial Economics, ECP 3703 (undergrad); eval. 4.8

Teaching Assistant 1999-2003: Managerial Economics (MBA)