

Curriculum Vitae – BRITT A. HOLMÉN, Ph.D.

Professor, Civil and Environmental Engineering
University of Vermont, Burlington, VT 05405

ACADEMIC APPOINTMENTS

University of Vermont , Civil and Environmental Engineering <i>Professor and Associate Professor</i>	2006 - present
University of Connecticut , Civil and Environmental Engineering <i>Associate Professor</i>	2001 - 2006
University of California Davis , Civil and Environmental Engineering <i>Adjunct Faculty</i>	1998 - 2009
University of California Davis , Crocker Nuclear Laboratory <i>Assistant Research Geochemist</i>	1997 - 2001

OTHER EMPLOYMENT

University of California Davis , Land Air and Water Resources <i>Postdoctoral Scholar</i>	1994 - 1997
Cambridge Analytical Associates , Boston, MA <i>Environmental Geochemist</i>	1988 - 1989
Smithsonian Astrophysical Observatory , Cambridge, MA <i>Geologist / Electron Microprobe Laboratory Manager</i>	1985 - 1988
Harvard University , Department of Geology, Cambridge, MA <i>Research Technician</i>	1985

EDUCATION

Ph.D., Massachusetts Institute of Technology , Cambridge, MA Department of Civil and Environmental Engineering	1995
M.S. University of Washington , Seattle, WA Geological Oceanography	1985
B.A. Colby College , Waterville, ME, Environmental Science/Geology	1982

HONORS & AWARDS

UConn School of Engineering <i>Outstanding Junior Faculty Award</i>	2005
<i>C.R. Klewin Award for Excellence in Teaching</i> , UConn CEE Department	2005
National Science Foundation <i>CAREER</i> Award	2002

TEACHING EXPERTISE

- Transportation Air Quality
- Environmental Engineering Laboratory
- Environmental Organic Chemistry
- Engineering Communication

RESEARCH FOCI

- Environmental Particle Interface Chemistry
- On-Road Vehicle Particle Emissions
- Airborne Particles: Generation & Transport

RESEARCH FUNDING (33 grants totaling \$8.8M) - 19 projects as PI (\$3.4M)

DISSEMINATION OF RESEARCH

Refereed Journal Papers: 51	Book Chapters and Technical Reports: 19
Conf. Papers, Presentations and Seminars: 123	Patents: 3

RESEARCH SUPERVISION

4 Ph.D., 11 Post Doctoral Fellows, 18 MS Students, 43 Undergraduate Researchers

RESEARCH SUPPORT*(numbers in parenthesis indicate the approximate percentage of the grant effort supervised by me)*

	Start Year	# of Mo.	Agency, Title and PIs	Award
34.	2018	18	UVM GUND INSTITUTE, Catalyst Award, The Biogas Collaborative Working Group, Holmén (PI), Danks (co-PI)	\$43,500
33.	2016	60	USDA, Health-promoting Roles of Food Bioactive Phenolic Compounds on Obesity-altered Health and Kidney Functions, Holmén (PI)	\$221,000
32.	2016	60	USDOT through UC Davis National University Transportation Center on Environmental Sustainability – Aultman-Hall UVM PI (90%), Holmén (co-PI – 10%)	\$1.4M
31.	2015	60	USDA – ARS, Metabolic Effects of Prenatal Exposure to Particulate Matter, Jetton (PI), Holmén (co-PI – 40%)	\$244,000
30.	2012	12	USDOT, UVM University Transportation Center Evaluation of Transportation/Air Quality Model Improvements Based on TOTEMS On-road Driving Style and Tailpipe Emissions Data, Holmén (PI – 100%)	\$148,835
29.	2012	12	USDOT, UVM University Transportation Center Nutritional Supplementation with the Antioxidant, Glutathione, to Reduce the Health Effects of Petro- and Biodiesel Exhaust Particle Emissions, Fukagawa (PI), Holmén (co-PI – 50%)	\$129,644
28.	2009	24	National Institutes of Health. Mechanisms for Cardiovascular Effects of Air Pollutants: Effect of Age and Sex, Fukagawa (PI), Holmén (co-PI – 40%)	\$999,986
27.	2008	12	UVM Office of Vice President for Research. Biological Effects of Diesel and Biodiesel Emission Particles, Fukagawa (PI), Holmén (40%), Mossman (co-PIs)	\$30,000
26.	2007	48	USDOT, UVM University Transportation Center. Emissions and Performance of Alternative Vehicles in Northern Climates, Holmén (PI – 90%), Gregory, Huston, Jenkins, Frolik, Streeter, Macias (co-PIs)	\$1.1M
25.	2007	12	Cambridge Environmental, Inc. Omya Fugitive Dust Monitoring Program, Holmén (PI – 100%)	\$77,829
24.	2007	36	US Department of Agriculture. Measurement and Modeling of Agriculture Field Emissions at Local and Regional Scales, Miller (PI), Holmén (co-PI – 30%), Sammis	\$499,429
23.	2005	30	Connecticut Department of Transportation. Detailed Modal Analysis Of Particulate Emissions From Connecticut Transit Buses For Local Emissions Modeling, Holmén (PI – 100%)	\$89,784
22.	2004	36	US Department of Agriculture. Real-time Mapping and Mass Accounting of Particle Emissions from Field Crop Operations Using Portable, Elastic-Backscatter LIDAR and Cascade Impactor Technologies, Miller (PI), Holmén (co-PI – 50%), Sammis	\$466,034
21.	2004	24	California Air Resources Board. Development of a Micro Air Particulate Analyzer (MicroAPA) for Ubiquitous	\$245,000

20.	2004	6	Deployment in Air Quality Monitoring and Epidemiological Studies, Niemeier (PI), Tien, Wexler, Holmén (co-PI – 10%) California Air Resources Board. Analysis of Single Particle and Particulate Size Distribution Transit Bus Emissions Data, Holmén (PI)	\$10,500
19.	2003	36	National Science Foundation. Modeling the Spatial Distribution of Fine Particulate Matter Emissions from Transportation Vehicles, Aultman-Hall (PI), Holmén (co-PI – 50%)	\$318,000
18.	2003	30	National Science Foundation. <i>Women Engineering Faculty Leadership Network</i> , Holmén (PI – 50%), Aultman-Hall (co-PI), MacKay (co-PI)	\$100,000
17.	2003	12	New England University Transportation Center. <i>Modeling Modal Transient Events for Vehicle Emission Models</i> , Aultman-Hall (PI), Holmén (co-PI - 50%)	\$53,421
16.	2003	24	Connecticut Department of Transportation. <i>Comparison of Ultrafine Particle Emissions of Hybrid-electric and Particle-trap Diesel Connecticut Transit Buses</i> , Holmén (PI)	\$120,000
15.	2003	24	Connecticut Transit. <i>Exhaust Total Particulate Matter Mass Measurement for the CTTRANSIT Hybrid Diesel Electric Bus Evaluation Program</i> , Holmén (PI)	\$82,679
14.	2003	24	Dreyfus Foundation. <i>Postdoctoral Fellowship in Environmental Engineering</i> , Holmén (PI – 90%), Helble	\$96,000
13.	2002	60	National Science Foundation. CAREER: <i>Vehicle-derived Ultrafine Particles and Their Adsorbates: Formation and Aging Effects on Organic Composition and Size Distribution</i> , Holmén (PI)	\$375,003
12.	2002	24	US Department of Agriculture. <i>Generation, Transport and Transformation of Pesticide Residues on Airborne Fine Particulate Matter Derived from Managed Soils</i> , Holmén (PI)	\$158,384
11.	2002	24	Lawrence Berkeley Laboratory, Advanced Light Source. <i>Synchrotron- X-ray Fluorescence (S-XRF) Analysis of Time-Resolved Particulate Matter Derived from Vehicles</i> , Holmén (PI).	N/A (3-5 beamline shifts granted)
10.	2002	18	California Air Resources Board. <i>Compressed Natural Gas Bus Particulate Emissions</i> , Holmén (PI)	\$13,125
9.	2001	6	California Air Resources Board. <i>Dynamometer Measurements of Particle Size Distributions for ARB's CNG versus Diesel Bus Emissions Study</i> , Holmén (PI).	\$41,167
8.	2000	24	California Air Resources Board. <i>>C₁₀ Oxygenated Organics in Size-segregated Particles for Source Apportionment of Diesel-Emissions</i> , Charles (PI), Holmén (co-PI – 10%), Ashbaugh (co-PI).	\$190,000
7.	2000	18	California Air Resources Board. Analysis of Crystalline Silica in Air Samples from Lompoc, California, Holmén (PI).	\$7,000
6.	1999	18	National Science Foundation. POWRE: Lidar Remote Sensing of Particulate Matter: Making the Qualitative to Quantitative Transition, Holmén (PI).	\$74,869

5.	1999	12	National Science Foundation , PG: Planning the Central Valley Community Science Project for Gender Equity in Culture, Climate and Curriculum, Holmén (PI – 80%) Longworth, McDonald, and Utts (co-PIs).	\$30,000
4.	1999	18	California Air Resources Board , The Physical and Chemical Characterization of Ultrafine and Nanoparticle Particulate Matter Emissions from Gasoline and Diesel On-Road Motor Vehicles, Holmén (PI – 90%) Ashbaugh, Niemeier and Young (co-PIs)	\$501,847
3.	1999	36	California Air Resources Board , Near-Source Exposure to Crystalline Silica and Fine Mineral Fibers in California, Holmén (PI – 90%), Southard (co-PI).	\$249,970
2.	1998	48	California Department of Transportation , North Coast River Loading Study -- Water Quality, Holmén (25%), Jackman, Mount and Larsen.	\$366,175
1.	1997	60	National Science Foundation , Research Experiences for Undergraduates, LURE: Linking Undergraduates to Research on the Environment, Darby (PI), Holmén (50%) and Niemeier (co-PIs).	\$325,000

RESEARCH SUPERVISION

Post Doctoral Fellows:

Yanxue Han	2016-18	Biodiesel exhaust particle chemical characterization for health studies.
Vaishali Sharma	2010	Biodiesel particle electropray generation.
Dan Nielsen	2008-10	Polar organic reaction products from diesel engine exhaust.
Zhong Chen	2003-06	Vehicle-derived particle /ozone interactions.
Oliver Gao	2004-05	Vehicle particulate emissions modeling.
Fukuya Iino	2004	Ambient aerosol sulfate composition and formation processes.
Jin Young Shin	2000-01	Herbicide gas/particle partitioning.
Ryoji Shiraki	2000-01	Crystalline silica from stationary sources.
B. Todd Hefner	2000-01	Lidar string calibration.
Juan Suro-Pérez	2000-02	North Coast watershed stormwater runoff: organic contaminants.
Birsen Buyuktas	1999-00	GC/MS of organic contaminants.

Ph.D. Student Supervision:

Tyler Feralio (Ph.D., UVM, Environmental Engineering May 2010 – Aug 2015) Light-duty Diesel Engine PM emissions modeling. *Current*: Champlain College.

John Kasumba (Ph.D., UVM, Environmental Engineering January 2009 – March 2015) Agricultural PM emissions, Herbicide gas-particle partitioning; Biodiesel PM emissions. *Current*: Western Kentucky University.

Wenli Yang (ENVE, UConn Ph.D. Dec 2006). Effect of field formulation on herbicide partitioning to soils and airborne particles. *Current*: California Air Resources Board.

Kathy Nanzetta (CEE, UC Davis Ph.D. March 2004). Vehicle emissions modeling/ air pollution. Co-adviser with D. Niemeier (CEE) and C. Anastasio (Atmospheric Science).

Masters Student Supervision:

* indicates Holmén as co-advisor to students in other departments

Joseph Russo	9/2018-	Polar organic particle composition by LC-MS/MS
Jack Reed	201?	Biodiesel fuel oxidation and emitted particle composition
Brent Barenberg	2017	Algae biodiesel (non-thesis)
Jim Dunshee	2015	Biodiesel particle emissions: mass and number
Matthew Conger	2015	Restart particle emissions hybrid-electric vehicles.
Karen Sentoff	2012	Light-duty vehicle greenhouse and air toxic emissions
Matthew Casari*	2012	Portable ultrafine particle sampler (pups)
Wenchao Zhang	2011	Moves emissions modeling at the project level (non-thesis)
Andrew Vize*	2011	Corona ionizer for an in-situ engine exhaust spectrometer
Terrence Barrett	2011	MEMS particle size sampler for on-board ultrafine particle measurement
Mitchell Robinson	2010	Particle number distributions from light-duty hybrid-electric vehicles
N. Tucker Stevens	2009	PAH/ozone reactions on heterogeneous solids
Derek Vikara	2005	Ultrafine PM emissions from hybrid diesel-electric transit buses
David Vail	2005	(M.S. professional practice)
Yingge Qu	2004	Transit bus particle size distributions
Saskia van Bergen	2003	Organic chemical signatures pm by pyrolysis GC/MS and time-of-flight
Amy Clymo	2002	USDA herbicide-dust flux
Kristine Kuhna	2000	North coast watershed metals in road runoff
Courtney Palko	2000	North coast project – organic contaminants

Technical Laboratory Staff Supervision

The following fulltime grant-funded staff worked under my direction in the UVM Transportation Air Quality Lab and several continued to graduate school (*) or co-authored peer-reviewed journal papers or research reports (#).

Riley Thomson	2017	Biodiesel emissions testing
Yao Tan	2015-16	Matlab coding for biodiesel emissions dataset
Karen Sentoff *#	2012-14	On-board emissions analysis; biodiesel emission test data
Philip Cannata	2012-13	GCMS data analysis for biodiesel exhaust composition
Jim Dunshee*	2012-14	Biodiesel emission test data collection
Brad Haire	2010-11	Biodiesel fuel characterization with IROX-D mid-range FTIR
Anna Conterato*	2007-08	Fugitive dust sampling in industrial and agriculture operations
Nicholas Meltzer*	2007-08	Field sampling fugitive dust from agriculture and industry sources

UNDERGRADUATE STUDENT RESEARCH MENTORING

indicates student co-authored a peer-reviewed journal publication with Prof Holmén

Name (dates)	Program	Thesis	Research Area
Frances Eisinger (2017-18)	Env Engr		GCMS of PAHs in biodiesel exhaust PM extracts
Annaliese Keimel (2017-18)	Env Engr	Yes	Greenhouse gas low-cost sensor performance
Markus Ingelsson (2016-18)	Env Engr		DIY Rancimat design & validation/Biodiesel UFP
Christopher Diehl (2014-18)	Env Engr		HEV emissions spatial analysis w/GIS
Cliff Witte (2016)	MechEng		HEMData Logger
Riley Thomson (2016-17)	MechEng		Thermodynamics of cold-start biodiesel emissions
Cassandra Albrecht (2016-17)	Env Engr	Yes	Size-resolved PAH emissions from biodiesel
Riley Thomson (2016)	Civil Eng		Biodiesel content of fuels
Flora Su (2014-15) #	Env Engr	Yes	<i>Criteria and Air Toxic Pollutants in Biodiesel Exhaust using Fourier Transform Infrared Spectroscopy</i>
Ben Rukavina (2014-16) #	Civil Eng		ROS From biodiesel PM.
Anna Nadler (2013-14)	Civil Eng		MOVES modeling of biodiesel MSAT emissions
Philip Cannata (2012)	Civil Eng		Biodiesel's environmental and health effects
John Nummy (2011-12)	Civil Eng		Headspace GCFID analysis of volatile emissions
Christopher Gavitt (2012)	Env Engr		GC-FID analysis of biodiesel fuel
Caitlin Patterson (2009-2012)	Civil Eng	Yes	<i>Instrument response comparisons with FTIR spectrometer and a perspective on vehicle emission testing procedures</i>
Tom Davidson (2011)	Civil Eng		Onboard hybrid vehicle emissions
Tamara Stone (2010)	Civil Eng		Humidity Effects on Particle Measurement
Meghan Thompson (2009)	Civil Eng		GC/MS Analysis O ₃ /PAH products
Timothy Kelly (2009-10)	Biology		Supercritical Fluid Extraction Herbicides
Rose Long (2009)	MechEng		Blending device and protocols for biodiesel
Scott Quinn (2009)	MechEng		Particulate emissions biodiesel engine
Mike Kreigh (2008)	MechEng		Air toxics gas emissions from biodiesel
Kate Johannesen (2008)	MechEng		Laboratory microbalance characterization
Nicholas Meltzer (2007)	Civil Eng		Fugitive dust from Omya facilities
Thomas Schlesinger (2007)	MechEng		On-board emissions and fuel consumption
I. Vazquez-Spickers (2007)	Civil Eng		Emissions from Light-duty Vehicles
Allison Leonard (2006)	Env Engr	Yes	Trace Metals in Roadway Runoff
Samantha Scharpf (2005)	Civil Eng		Identification of polar products in GC/MS spectra
Michelle Przybylek(2005)	Civil Eng		Particle number to mass emissions estimation

Christopher Shores (2005-06)	Env Engr		SFE of Herbicide/Surfactant Mixtures
Robert Fusco (2005)	ChemEn		Thermal desorption GC/MS analysis of PM
Brad Harwood (2004)	Env Engr		Comparison of real-time particle emissions from diesel and hybrid electric transit buses.
Laura Radice (2003-05)	Env Engr	Yes	Herbicide Vapor Pressure Measurement by GC
J. Lewandowski (2003-05)	Env Engr	Yes	Hybrid Transit Bus Particle Emissions
Leslie Burton (2003)	Civil Eng		Mobile Source Emissions
Dan Seremet (2003)	Env Engr		Characterization of soil resuspension chamber
Tomasz Malinger (2002-03)	Env Engr		Poland visitor; Organic compound extraction
Dan Seremet (2002)	Env Engr		BTEX Removal from Soil by Volatilization
Erzsébet Pócsi (2002)	Env Engr	Yes	Particulate Matter in the Grand Canyon
Jennette Sison (2000)	PubHealth		Hydroxamate siderophores and Fe(III) cycling in an anaerobic goethite medium
Benjamin Ashbaugh (2000)	CompSci		Lidar data correlation routine for wind analysis
Rashi Gupta (1999)	Civil Eng		PM _{2.5} Emissions Near roadways
Elaine Moon (1999)	Env. Sci.		Development of a tribal values index for wetlands
Christopher Van Wert (1999)	MechEng		PM sampler for monitoring diesel bus emissions
Charles Xie (1998)	CompSci		Lidar Data Analysis Program (LidarDAP)
Erik Merriman (1998)	Civil Eng		Coal tar slurry for lead soil contamination
Cindy Vahey (1998)	Civil Eng		Effect of surface particles on lead levels in stormwater runoff from aviation fuel

PATENTS

3. Micro-Fabricated Double Condenser Method And Apparatus For The Measurement Of Number-Size Distribution Of Airborne Nano-Particles U.S. patent application 13/077768, file 03/31/2011, awarded 10/17/2013. Terence Barrett and Britt Holmén.
2. Portable Ultrafine Particle Sizer (PUPS) Apparatus U.S. patent application 12/908,280, filed 10/20/2010. Andrew Vize, Britt Holmén, Matthew Casari, Jeff Frolik. Awarded June 3, 2014, US 8739602 B2, US20120099105 A1, US20150068282
1. US7098462 - Microfabricated device for selectively removing and analyzing airborne particulates from an air stream - 08/29/2006. Beelee Chua, Norman C. Tien, D. Niemeier, Anthony Wexler, Britt Holmén.

PEER-REVIEWED JOURNAL PUBLICATIONS

*An * indicates a student working under my supervision while ** indicates other students. & indicates my Ph.D. advisors.*

55. Kasumba*, J., N.K. Fukagawa and B.A. Holmén (2019?) Fuel Composition Effects on Carbonyls and Quinones in Particulate Matter from a Light-Duty Diesel Engine Running Biodiesel Blends from Two Feedstocks. Submitted to Energy & Fuels 9/5/18
54. Kasumba*, J. and B.A. Holmén (2018) Heterogeneous ozonation reactions of PAHs and fatty acid methyl esters in biodiesel particulate matter. Atmospheric Environment 175, 15-24
53. Zhong, F., M Xu, K Schelli, J Rutowski, BA Holmén, J Zhu* (2017) Comparing the impact of ultrafine particles from petrodiesel and biodiesel combustion to bacterial metabolism by targeted HPLC-MS/MS metabolic profiling. Ecotoxicology and Environmental Safety 142, 164-170. DOI: 10.1016/j.ecoenv.2017.04.002

52. Holmén, B.A., B. Rukavina*, J. Kasumba*, N. K. Fukagawa (2017) Reactive oxidative species and speciated particulate light-duty engine emissions from diesel and biodiesel fuel blends. *Energy & Fuels*, 31 (8), pp 8171–8180. DOI: 10.1021/acs.energyfuels.7b00698
51. Kasumba, J.* and B.A. Holmén (2016) Nonpolar Organic Compound Emission Rates for Light-Duty Diesel Engine Soybean and Waste Vegetable Oil Biodiesel Fuel Combustion. *Energy & Fuels*, 30 (11), 9783–9792. DOI: 10.1021/acs.energyfuels.6b01582
50. Su, F.* and B. A. Holmén (2016) Modeling Criteria and Air Toxic Pollutants in Light-duty Biodiesel Exhaust. *Transportation Research Record*, No. 2570, 87 – 96. DOI:10.3141/2570-10
49. Barrett, T.*, B. Chua, B. A. Holmén (2016) Sensing of Airborne Nanoparticles Using Miniaturized Whipple Double Condenser, *IEEE Sensors Journal*, 16 (18), 6990 – 6996. DOI: 10.1109/JSEN.2016.2584580
48. Holmén, B.A., K.M. Sentoff* (2015) Hybrid-Electric Passenger Car Carbon Dioxide and Fuel Consumption Benefits Based on Real-World Driving. *Environ. Sci. Technol.*, 2015, 49 (16), DOI: 10.1021/acs.est.5b01203
47. Conger*, Matthew and Britt A. Holmén (2014) Characterization of Real-World Particle Number Emissions during Re-ignition Events from a 2010 Light-duty Hybrid-Electric Vehicle. *Transportation Research Record*, Journal of the Transportation Research Board No. 2503, 137-146. DOI: 10.3141/2503-15
46. Sentoff*, K.M., L. Aultman-Hall, B.A. Holmén (2015) Implications of Driving Style and Road Grade for Accurate Vehicle Activity Data and Emissions Estimates. *Transportation Research Part D*, 35 (March 2015), 175–188. DOI: 10.1016/j.trd.2014.11.021
45. Traviss, N., Muyao Li, Melissa Lombard, Brett Amy Thelen, Brian C. Palmer, Matthew E. Poynter, Brooke T. Mossman, Britt A. Holmén, Naomi K. Fukagawa (2014) Petrodiesel and Waste Grease Biodiesel (B20) Emission Particles at a Rural Recycling Center: Characterization and Effects on Lung Epithelial Cells and Macrophages, *Air Quality, Atmosphere and Health*, 7 (1): 59-70. DOI 10.1007/s11869-013-0231-x.
44. Sonntag, D.B., H. O. Gao**, B.A. Holmén (2013) Comparison of particle mass and number emissions_{SEP} from a diesel transit bus across temporal and spatial scales. *Transportation Research Part D*, 25, 146-154. DOI:10.1016/j.trd.2013.09.005
43. Fukagawa, Naomi K., Muyao Li, Matthew E. Poynter, Brian C. Palmer, Erin Parker, John Kasumba* and Britt A. Holmén (2013) Soy Biodiesel and Petrodiesel Emissions Differ in Size, Chemical Composition and Stimulation of Inflammatory Responses in Cells and Animals. *Environmental Science & Technology* 47 (21), 12496–12504. 10.1021/es403146c
42. Holmén, Britt A., John Kasumba*, April Hiscox, Junming Wang, David Miller (2013) Mechanized and Natural Soil-to-Air Transfer of Trifluralin and Prometryn from a Cotton Field in Las Cruces, New Mexico. *Journal of Agricultural and Food Chemistry* 61 (41), 9776–9783. 10.1021/jf4020697
41. Chua, B. A.S. Wexler, N.C. Tien, D.A. Niemeier, B.A. Holmén (2013) Collection of Liquid Phase Particles by Microfabricated Electrostatic Precipitator. *Journal of Microelectromechanical Systems* 22, 1010 – 1019 DOI: 10.1109/JMEMS.2013.2262597
40. Chua, B., A.S. Wexler, N.C. Tien, D.A. Niemeier, B.A. Holmén (2013) Micro-corona based particle steering air filter. *Sensors and Actuators A: Physical*, 196, 8-15. DOI 10.1016/j.sna.2013.03.029
39. Kasumba*, John, Britt A. Holmén, April Hiscox, Junming Wang, David Miller (2011) Agricultural PM10 Emissions from Cotton Field Disking in Las Cruces, NM. *Atmospheric Environment*, 45 (9), 1668-1674. 10.1016/j.atmosenv.2011.01.004
38. Kamarianakis, Yiannis, Huaizhu Oliver Gao**, and Britt A. Holmén (2011) Evaluating Effects of Engine Operating Variables on Particle Number Emission Rates Using Robust Regression Models. *Transportation Research Record: Journal of the Transportation Research Board*, No. 2233, pp. 36–44. DOI: 10.3141/2233-05
37. Wang, Junming, T. W. Sammis, D. R. Miller, A. L. Hiscox, D. Granucci, B. Holmén, J. Kasumba*, M. K. Shukla, S. O. Dennis, and Xuemin Zhang (2011) Simulated Regional PM10 Dispersion from Agricultural Tilling Operations Using HYSPLIT. *Transactions ASABE* 54(5), 1659-1667.

36. Kamarianakis, Yiannis, H. Oliver Gao**, Britt A. Holmén, Darrell B. Sonntag (2011) Robust modeling and forecasting of diesel particle number emissions rates. *Transportation Research Part D: Transport and Environment*, Volume 16, Issue 6, 435-443. 10.1016/j.trd.2011.04.005
35. Robinson*, M.K. and Britt A. Holmén (2011) Onboard, Real-World Second-by-Second Particle Number Emissions from 2010 Hybrid and Comparable Conventional Vehicle, *Journal of the Transportation Research Board*, 2233, 2011, 63-71. 10.3141/2233-08
34. Robinson*, M. K., K.M. Sentoff*, and Britt A. Holmén (2010) Particle Number and Size Distribution Emissions During Light-Duty Vehicle Cold Start Using the Total On-Board Tailpipe Emissions Measurement System, *Transportation Research Record*, No. 2158, 86-94. 10.3141/2158-11
33. Sentoff*, K.M., M.K. Robinson*, and Britt A. Holmén (2010) Second-by-Second Characterization of Cold-Start Gas-Phase and Air Toxic Emissions from a Light-Duty Vehicle, *Transportation Research Record*, No. 2158, 95-104. DOI: 10.3141/2158-12
32. Wang, Junming, D.R. Miller, T.W. Sammis, A.L. Hiscox, W. Yang*, B.A. Holmén (2010) Local Dust Emission Factors for Agricultural Tilling Operations. *Soil Science*, 175 (4), 194-200. 10.1097/SS.0b013e3181dae283
31. Chua, Beelee, A.S. Wexler, N.C. Tien, D.A. Niemeier, B.A. Holmén (2009) Electrical mobility separation of airborne particles using integrated microfabricated corona ionizer and separator electrodes. *Journal of Microelectromechanical Systems*, 18 (1), 4-13. 10.1109/JMEMS.2008.2011123
30. Jackson*, E. D., B.A. Holmén (2009) Modal analysis of vehicle operation and particulate emissions from Connecticut Transit Buses; *Transportation Research Record*, No. 2123, 76-87. DOI: 10.3141/2123-09
29. Sonntag, Darrell B., H. Oliver Gao and Britt A. Holmén (2008) Variability of Particle Number Emissions from Diesel and Hybrid Diesel-Electric Buses in Real Driving Conditions. *Environ. Sci. Technol.*, 2008, 42 (15), pp 5637-5643. DOI: 10.1021/es702359x
28. Qu*, Y., N. Ravishanker, B.A. Holmén. (2008) Predicting Light-Duty Gasoline Vehicle On-Road Particle Number Emissions From Gas Emissions Using A Time-Series Cross-Section Regression Approach. *Transportation Research Record* 2058, 97-105. 10.3141/2058-12
27. Yang*, W. and B. A. Holmén (2008) Relative Effects of Surfactants and Humidity on Soil/Air Desorption of Chloroacetanilide and Dinitroaniline Herbicides. *Environmental Science & Technology*, 42, 6843-6848. 10.1021/es800684h
26. Chua, B., A.S. Wexler, N.C. Tien, D.A. Niemeier, B.A. Holmén (2008) Design, fabrication, and testing of a microfabricated corona ionizer. *Journal of Microelectromechanical Systems*, 17, 115-123. 10.1109/JMEMS.2007.909515
25. Hiscox, A.L., D.R. Miller, B.A. Holmén, W. Yang*, J. Wang, (2008) Near-Field Dust Exposure from Cotton Field Tilling and Harvesting, *J. Environmental Quality*, 37, (3), 551-6. 10.2134/jeq2006.0408
24. Holmén, B.A., D. R. Miller, Hiscox, A.L., W. Yang*, J. Wang, T. Sammis, R. Bottoms (2008) Near-source particulate emissions and plume dynamics from agricultural field operations. *Journal Atmospheric Chemistry* 59, 117-134. DOI 10.1007/s10874-007-9086-6
23. Sonntag, D. B., H.O. Gao**, B.A. Holmén (2007) Modeling on-road particle number emissions from a hybrid diesel-electric bus - Exploratory econometric analysis. *Transportation Research Record* No. 2011, 40-48. 10.3141/2011-05
22. Yang*, W. L. and B.A. Holmén (2007) Effects of relative humidity on chloroacetanilide and dinitroaniline herbicide desorption from agricultural PM_{2.5} on quartz fiber filters. *Environmental Science & Technology*, 41, (11), 3843-3849. 10.1021/es062692i
21. Vikara*, D. and B.A. Holmén (2007) Ultrafine Particle Number Concentrations from Hybrid Urban Transit Buses Using Onboard Single-Diameter Scanning Mobility Particle Sizer Measurements, *Transportation Research Record* No.1987, pp. 54-61.
20. Jackson*, E., Y. Qu*, B.A. Holmén and L. Aultman-Hall (2006) Driver and Road Type Effects on Light-duty Gas and Particulate Emissions, *Transportation Research Record*, No. 1987, pp. 118-127.

19. Tzrepla-Nabaglo, K., R. Shiraki** and B.A. Holmén (2006) Lidar Characterization of Crystalline Silica Generation and Transport from a Sand and Gravel Plant, *J. Hazardous Materials*, 132, 14-25. 10.1016/j.jhazmat.2005.11.092
18. Jackson*, E., L. Aultman-Hall, B.A. Holmén and Jianhe Du* (2005) Evaluating the Ability of Global Positioning System Receivers to Measure Real World Operating Mode for Emissions Research, *Transportation Research Record*, No.1941, pp.43-50.
17. Clymo*, A., J.Y. Shin** and B.A. Holmén (2005) Herbicide sorption to fine particulate matter suspended downwind of agricultural operations: Field and laboratory investigations. *Environ. Sci. Technol.*, 39, 421-430. 10.1021/es049210s
16. Gao**, H.O., B.A. Holmén, D.A. Niemeier (2005) Nonparametric Factorial Analysis of Daily Weigh-in-Motion Traffic: Implications for the Ozone “Weekend Effect” in Southern California. *Atmospheric Environment*, 39, 1669-1682. 10.1016/j.atmosenv.2004.11.028
15. Holmén, B.A. and Y. Qu* (2004) Uncertainty in Particle Number Modal Analysis during Transient Operation of Compressed Natural Gas, Diesel and Trap-Equipped Diesel Transit Buses, *Environ. Sci. Technol.* 38, 2413-2423. 10.1021/es034560k
14. Nanzetta*, M.K. and B. A. Holmén (2004) Roadside Particle Number Distributions and Relationships between Number Concentrations, Meteorology, and Traffic along a Northern California Freeway, *J. Air & Waste Manage. Assoc.*, 54, 540-554. 10.1080/10473289.2004.10470926
13. Ayala, A., N.Y. Kado, R.A. Okamoto, B.A. Holmén, K. E. Stiglitz (2004) Diesel and CNG Heavy-duty Transit Bus Emissions over Multiple Driving Schedules: Regulated Pollutants and Project Overview. *SAE Transactions Journal of Fuels and Lubricants*, 735-747.
12. Shiraki**, R. and B. A. Holmén (2002) Airborne respirable silica near a sand and gravel facility in central California: XRD and elemental analysis to distinguish source and background quartz. *Environ. Sci. Technol.*, 36, 4956-4961. 10.1021/es0257265
11. Holmén, B.A. and A. Ayala (2002) Ultrafine PM Emissions from Natural Gas, Oxidation-Catalyst Diesel and Particle-Trap Diesel Heavy-Duty Transit Buses. *Environ. Sci. & Technol.* 36, 5041-5050. 10.1021/es015884g
10. Holmén, B.A., T. A. James, L. L. Ashbaugh, R.G. Flocchini (2001) Lidar-assisted measurement of PM₁₀ emissions from agricultural tilling in California’s San Joaquin Valley II: Emission Factors. *Atmospheric Environment*, 35, 3265-3277. 10.1016/S1352-2310(00)00519-7
9. Holmén, B.A., T. A. James, L. L. Ashbaugh, R.G. Flocchini (2001) Lidar-assisted measurement of PM₁₀ emissions from agricultural tilling in California’s San Joaquin Valley I: Lidar. *Atmospheric Environment*, 35, 3251-3264. 10.1016/S1352-2310(00)00518-5
8. Johns*, C., B.A. Holmén, R.H. Shumway, D.A. Niemeier (2001) Nonlinear regression for modeling censored one-dimensional concentration profiles of fugitive dust plumes. *J. Agricultural, Biological, and Environmental Statistics* 6, 99-117.
7. Holmén, B.A., Y. Meng*, D. A. Niemeier (2001) Time series analysis of above-road particulate matter at the Caldecott Tunnel exit. *J. Air & Waste Management Assoc.*, 51, 601-615.
6. Holmén, B.A., J. D. Sison*, W. H. Casey[&], D. Nelson (1999) Hydroxamate siderophores, cell growth and Fe(III) cycling in two anaerobic iron oxide media containing *Geobacter metallireducens*. *Geochimica et Cosmochimica Acta*, 63, 227-239.
5. Holmén, B.A., W. Eichinger, R.G. Flocchini (1998) Application of elastic lidar to PM₁₀ emissions from agricultural non-point sources. *Environ. Sci. Technol.*, 32, 3068-3076. 10.1021/es980176p
4. Holmén, B.A., D. A. Niemeier (1998) Characterizing the effects of driver variability on real-world vehicle emissions *Transportation Research, Part D: Transport and Environment*, 3, 117-128.
3. Holmén, B. A., M. Isabel Tejedor-Tejedor, W. H. Casey[&] (1997) Hydroxamate complexes in solution and at the goethite-water interface: A cylindrical internal reflection Fourier transform infrared spectroscopy study. *Langmuir*, 13, 2197-2206. 10.1021/la960944v
2. Holmén, B.A. and P.M. Gschwend[&] (1997) Estimating sorption rates of hydrophobic organic compounds in iron oxide- and aluminosilicate clay-coated aquifer sands. *Environ. Sci. Technol.*, 31, 105-113. 10.1021/es9601696

1. Holmén, B.A. and W. H. Casey[&] (1996) Hydroxamate ligands, surface chemistry, and the mechanism of ligand-promoted dissolution of goethite [α -FeOOH(s)]. *Geochim. Cosmochim. Acta*, 60, 4403-4416. 10.1016/S0016-7037(96)00278-5

PEER-REVIEWED BOOK CHAPTERS & COURSE MODULES

2. Holmén, B.A. (2012) Sustainable Transportation Energy Through Alternative Technology: Light-Duty Hybrid-Electric Gasoline Vehicles. Module 12-45, Center for Sustainable Engineering, Syracuse New York.
1. Holmén, B.A. and D.A. Niemeier (2003) "Air Quality". *Handbooks in Transport, Volume 4: Handbook of Transport and the Environment* (Hensher, D.A. and K. J. Button, Eds.), Chapter 4, p. 61-79, Amsterdam: Elsevier.

CONFERENCE PROCEEDINGS (FULL PAPER REFEREED)

*An * indicates a student, ** indicates a post-doctoral scholar working under my supervision while [&] indicates either my M.S., Ph.D. or post-doctoral advisor.*

29. Feralio*, T., D. Rizzo, B. A. Holmén (2015) Determining The Primary Engine Operating Parameters Needed To Model Transient Ultrafine Particle Emissions In Real-Time From A Diesel Engine Running On Blends Of Biodiesel. 95th Annual Meeting of the Transportation Research Board, January 2016, Washington, DC.
28. Su*, F. and B.A. Holmén (2015) Modeling Criteria and Air Toxic Pollutants in Light-duty Biodiesel Exhaust. 95th Annual Meeting of the Transportation Research Board, January 2016, Washington, DC. Paper No. 16-4480.
27. Sentoff*, Karen, Lisa Aultman-Hall, Britt A. Holmén (2014) Implications of Driving Style and Road Grade for Accurate Vehicle Activity Data and Emissions Estimates. 94th Annual Meeting of the Transportation Research Board, January 2015, Washington, DC. Paper No. 15-4702.
26. Conger*, Matthew and Britt A. Holmén (2014) Characterization of Real-World Particle Number Emissions during Re-ignition Events from a 2010 Light-duty Hybrid-Electric Vehicle. 94th Annual Meeting of the Transportation Research Board, January 2015, Washington, DC. Paper No. 15-5405.
25. Talbot, Eric, Robert Chamberlin, Britt A. Holmén, Karen Sentoff* (2014) Calibrating a Traffic Microsimulation Model to Real-World Operating Mode Distributions. 93rd Annual Meeting of the Transportation Research Board, January 2014, Washington, DC. Paper No. 14-0406.
24. Holmén, Britt A., Anna Nadler*, Karen Sentoff* (2013) MOVES2010b Project-Level Emissions of Criteria and Air Toxic Gases Compared to On-Board Tailpipe Measurements for Conventional and Hybrid-Electric Vehicles. Submitted to the 93rd Annual Meeting of the Transportation Research Board, January 2014, Washington, DC. Paper No. 14-4650.
23. Sentoff*, Karen and Britt A. Holmén, (2013) Fuel Economy Benefit of a Hybrid-Electric Light-Duty Vehicle across Real-World Operating Modes. Submitted to the 93rd Annual Meeting of the Transportation Research Board, January 2014, Washington, DC. Paper No. 14-4583.
22. Feralio*, Tyler and Britt A. Holmén, (2013) Effect of Drive Cycle and Fuel Type on Ultrafine Particle Number Emissions Model Input Optimization. Submitted to the 93rd Annual Meeting of the Transportation Research Board, January 2014, Washington, DC. Paper No. 14-4588.
21. Chamberlin, Robert, Britt Holmén, Eric Talbot, Karen Sentoff* (2013) Comparative Analysis of the EPA Operation Mode Distribution Generator with Real World Operating Mode Data, Transportation Research Board 92nd Annual Meeting, Washington, D.C., January 2013. Paper # 13-0387.
20. Conger*, M. and B. A. Holmén (2012) Real-World Engine Cold Start and "Restart" Particle Number Emissions from a 2010 Hybrid and Comparable Conventional Vehicle. Transportation Research Board 91st Annual Meeting, Washington, D.C., January 2012, Paper #12-4570.

19. Kamarianakis, Y., H. Oliver Gao, B.A. Holmén (2011) Evaluating the Effects of Engine Operating Variables on Particle Number Emission Rates Using Robust Regression Models. Transportation Research Board 90th Annual Meeting, Washington, D.C., January 2011, Paper #11-2721.
18. Robinson*, M.K. and Britt A. Holmén (2011) Onboard, Real-World Second-by-Second Particle Number Emissions from 2010 Hybrid and Comparable Conventional Vehicle. Transportation Research Board 90th Annual Meeting Washington D.C. 2011, Paper #11-1775.
17. Sentoff*, K., M.K. Robinson*, B.A. Holmén. (2010) Second-by-Second Characterization of Gaseous Air Toxic Cold-Start Emissions from a Light-Duty Vehicle. Transportation Research Board: Washington D.C. 2010, Paper # 10-3101.
16. Robinson*, M.K., Sentoff*, K., B. A. Holmén (2010) Particle Number and Size Distribution Emissions During Light-Duty Vehicle Cold Start Using the TOTEMS On-Board Measurement System. Transportation Research Board: Washington D.C. 2010, Paper #10-3038.
15. Holmén, B.A., K.M. Sentoff*, M.K. Robinson*, and P. Montane (2010) The University of Vermont TOTEMS Instrumentation Package for Real-World, On-Board Tailpipe Emissions Monitoring of Conventional and Hybrid Light-Duty Vehicles. Transportation Research Board: Washington D.C. 2010, Paper # 10-3023.
14. Jackson*, E. D.; Holmén, B. A. (2009) Modal analysis of vehicle operation and particulate emissions from Connecticut Transit Buses; Transportation Research Board: Washington D.C. 2009.
13. Qu*, Y., N. Ravishanker, B.A. Holmén. (2008) Predicting Light-Duty Gasoline Vehicle On-Road Particle Number Emissions From Gas Emissions Using A Time-Series Cross-Section Regression Approach. January 2008 Transportation Research Board (TRB) 87th annual meeting, Washington DC.
12. Sonntag, D. B, H.O. Gao, and B.A. Holmén, (2007), Variability of Particle Number Emissions from Conventional and Hybrid Diesel-electric Buses in Real-Driving Conditions. January 2008 Transportation Research Board (TRB) 87th annual meeting, Washington DC.
11. Aultman-Hall, L., B.A. Holmén (2006) Promoting women leaders for engineering academia'. ASEE Annual Conference & Exposition, Chicago, IL, June 18-21.
10. Ayala, A., N.Y. Kado, R.A. Okamoto, B.A. Holmén, K. E. Stiglitz (2002) Diesel and CNG Heavy-duty Transit Bus Emissions over Multiple Driving Schedules: Regulated Pollutants and Project Overview. SAE Paper 2002-01-1722.
9. Qu, Y.*, B.A. Holmén (2002) Ultrafine Particle Number Concentrations and Size Distributions of Diesel, Natural Gas, and Trap-equipped Diesel Transit Buses Measured with an Electrical Low Pressure Impactor, AWMA 95th Annual Conference, Baltimore, MD, June 23-27, 2002.
8. Ayala, A., N.Y. Kado, R.A. Okamoto, B.A. Holmén, K. E. Stiglitz, K. Sahay (2002) Regulated and Other Emissions from "Late-model" Diesel and CNG Heavy-duty Transit Buses over Multiple Driving Schedules. Society of Automotive Engineers (SAE) International, Spring Fuels & Lubricants Meeting, Reno, NV, May 6-9, 2002.
7. Ayala, A., N.Y. Kado, R.A. Okamoto, B.A. Holmén, K. E. Stiglitz (2002) Comparative Study Of Diesel and CNG Heavy-Duty Transit Bus Emissions. 12th CRC On-Road Vehicle Emissions Workshop, San Diego, CA, April 15-17, 2002.
6. Trzepla-Nabaglo, K., B.A. Holmén, R. G. Flocchini. (2001) Lidar assessment of particulate matter vertical profiles measured by point samplers. IV Congreso Internacional de Ingeniería Agrícola. 9-10 y 11 de mayo de 2001. Chillán, Chile. <INVITED>
5. Nanzetta, M.K.*, B.A. Holmén. (2001) Roadside particle number and size distributions of vehicular ultrafine and nanoparticle particulate matter emissions. Air & Waste Management Association National Meeting, June 25-29, Orlando, FL.
4. Holmén, B.A., A. Ayala, N. Kado, R. Okamoto (2001) ARB's Study of Emissions from "Late-model" Diesel and CNG Heavy-duty Transit Buses: Preliminary Nanoparticle Measurement Results. 5th International ETC-Conference on Nanoparticle Measurement, Zurich, Switzerland, August 6-8, 2001.

3. Holmén, B.A., T. A. James, L. L. Ashbaugh, R.G. Flocchini. (2000) Tractor-generated Fugitive Dust Plumes: Improving PM Emission Flux Calculations with Lidar. American Society of Agricultural Engineers 2nd International Conference, Air Pollution from Agricultural Operations, October 9-11, Des Moines, IA.
2. Casey[&], W.H., C. Ludwig, B.A. Holmén. (1998) Toward understanding the rates of reactions at mineral surfaces. Marini, L and G. Ottonello (Eds.) Proceedings of the Rome Seminar on Environmental Geochemistry, Castelnuovo di Porto, May 22-26, 1996. Pacini Editore, Pisa.
1. Gschwend[&], P.M., B.A. Holmén, A.A. MacKay, J.N. Ryan, D.A. Backhus, Y.-P. Chin. (1994) Overview: Processes limiting the occurrence of organic contaminants in moving groundwater. In Transport and Reactive Processes in Aquifers, Dracos, Th. & F. Stauffer (Eds) Proceedings of the IAHR Symposium, April 11-15, 1994, Zurich, Switzerland.

CONFERENCE PROCEEDINGS (ABSTRACT REVIEWED)

*An * indicates a student, ** indicates a post-doctoral scholar working under my supervision while [&] indicates either my M.S., Ph.D. or post-doctoral advisor.*

94. Han, Y. **, J. Kasumba*, N. Fukagawa, B. A. Holmén (2017) Impact of biodiesel blends on chemical composition of nitro-PAH and carbonyl compound emissions and stimulation of inflammatory responses in cells. 253rd American Chemical Society National Meeting, April 2-6, 2017, San Francisco, CA.
93. Holmén, B. A., B. Rukavina*, J. Kasumba*, J. Reed*, Y. Han** and N. K. Fukagawa (2017) Detailed examination of particulate matter from waste vegetable oil biodiesel combustion: Oxidative potential relationships to fuel feedstock and blend ratio composition. 253rd American Chemical Society National Meeting, April 2-6, 2017, San Francisco, CA.
92. Fukagawa, N.F., T.L. Jetton, M. Peshavaria, E.A. Bonney, M.E. Poynter, B. A. Holmén (2015) Sex-Specific Metabolic Alterations in Offspring of Mice Exposed Prenatally to Particulate Matter (PM) from Petrodiesel (PD) Combustion, Experimental Biology 2015. The FASEB Journal 29 (1 Supplement), LB258. (Federation of American Societies for Experimental Biology).
91. Su, F., B. Holmén (2015) Quantification of Gas-phase Species in Biodiesel Exhaust Emissions using Fourier Transform Infrared (FTIR) Spectroscopy. Society of Women Engineers Region F conference. Feb 28 – March 1, Wentworth Institute of Technology, Boston, MA.
90. Feralio T. and B.A. Holmén. (2014) Light-Duty Diesel Engine Biodiesel Particle Number Emissions Relative to Blend Ratio and Engine Conditions. Poster presented at: American Association for Aerosol Research 33rd Annual Conference. OCT 20-24; Orlando, FL
89. Dunshee, J. and B.A. Holmén. (2014) Particulate Matter Emissions from a Light-Duty Diesel Engine Fueled by Biodiesel Blends. Poster presented at: American Association for Aerosol Research 33rd Annual Conference. OCT 20-24; Orlando, FL
88. Sentoff, K., B. Holmén and M. Conger. (2014) Predicting Particle Number Emissions from Hybrid-Electric Vehicle Engine Restart Events. Poster presented at: American Association for Aerosol Research 33rd Annual Conference. OCT 20-24; Orlando, FL
87. Kasumba, J. and B. A. Holmén (2014) Oxidation of Biodiesel Exhaust Particulate Matter with Ozone. American Association for Aerosol Research 33rd Annual Conference. OCT 20-24; Orlando, FL
86. Britt A. Holmén, Karen Sentoff, Mitchell Robinson, Matthew Conger (2014) Real-world Fuel Economy and Particle Number Emissions of a Hybrid-Electric Passenger Car Under Cold Climate, Hilly Terrain Operation. 2014 Portable Emissions Measurement Systems (PEMS) Workshop & Conference, UC Riverside, April 3-4, 2014.

85. Britt Holmén, Anna Nadler*, Karen Sentoff* and Wenchao Zhang* (2013) Comparison of Real-World Tailpipe Emissions to MOVES 2010 Model Predictions as a Function of Road Grade. American Association for Aerosol Research 32nd Annual Conference. Sep 30 – Oct 4; Portland, OR.
84. Sentoff*, Karen and Britt Holmén (2013) Particle Size Distributions from a Light-Duty Conventional Vehicle and Comparable Hybrid-Electric Vehicle during Real-World Driving. American Association for Aerosol Research 32nd Annual Conference. Sep 30 – Oct 4; Portland, OR.
83. Feralio T. and B.A. Holmén (2013) 'Predicting transient particle number emissions from different blends and feedstocks of biodiesel using an artificial neural network.' American Association for Aerosol Research 32nd Annual Conference. Sep 30 – Oct 4; Portland, OR.
82. Dunshee, J. Brian C. Palmer, Tyler Feralio, Muyao Li, Naomi K. Fukagawa, Britt A. Holmén (2013) Biodiesel Exhaust Particulate Matter (PM) Pretreatment and Screening for Health Effect Studies. American Association for Aerosol Research 32nd Annual Conference. Sep 30 – Oct 4; Portland, OR.
81. Feralio T., Holmén B. A. (2012) 'Light-Duty Diesel Engine Exhaust Particle Number Distribution Differences between Petro-Diesel and Different Blends of Soy Biodiesel Fuels.' American Association for Aerosol Research 31st Annual Conference. October 8-12; Minneapolis MN.
80. Sentoff, Karen M., Britt A. Holmén, Matthew B. Conger (2012) Investigations of Particle Number and Gas-Phase Tailpipe Pollutants from Comparable Hybrid and Conventional Vehicles. American Association for Aerosol Research 31st Annual Conference. October 8-12; Minneapolis MN.
79. Kasumba J., Holmén B. A. (2012) Chemical Characterization of Primary and Secondary Biodiesel Exhaust Particulate Matter. Poster presented at the 31st American Association for Aerosol Research annual conference. October 8-12; Minneapolis, MN.
78. Li, Muyao; Poynter, Matthew E.; Palmer, Brian C.; Parker, Erin; Mossman, Brooke T.; Holmén, Britt A.; Fukagawa, Naomi K. (2011) Are Biodiesel (B20) Emissions Less Harmful than Petrodiesel (B0)? FREE RADICAL BIOLOGY AND MEDICINE, 51, S106-S106. 18th Annual Meeting of the Society-for-Free-Radical-Biology-and-Medicine (SFRBM), NOV 16-20, 2011, Atlanta, GA.
77. Feralio*, T. and B.A. Holmén (2011) Prediction of Transient Diesel and Biodiesel Particulate through the use of an Artificial Neural Network. AAAR 30th Annual Conference, Orlando, Florida, October 3-7, 2011.
76. Conger*, M. and B.A. Holmén (2011) Impact of Road Facility Attributes, Congestion and Temperature upon Changes in Particulate Emission Rates Resulting From Hybrid Engine Restart Events. AAAR 30th Annual Conference, Orlando, Florida, October 3-7, 2011.
75. Kasumba*, J. and B.A. Holmén (2011) Characterization of Secondary Biodiesel Exhaust Particulate. AAAR 30th Annual Conference, Orlando, Florida, October 3-7, 2011
74. Kelly*, T. J. Kasumba*, B. Holmén, A. Hiscox, J. Wang, D. Miller (2011) Measurement of Real-World Herbicides in Vapor and Particle Phases on a Cotton Field in Las Cruces, NM., to be presented to the Northeast Agricultural and Biological Engineering Conference (NABEC) 2011 of the American Society of Agricultural and Biological Engineers, South Burlington, VT, July 24-27, 2011.
73. Kasumba*, J, B.A. Holmén, A. Hiscox, J. Wang, D. Miller, Measurement of Real-world Herbicides in Vapor and Particle Phases on a Cotton Field in Las Cruces, NM. 29th Annual Conference of the American Association for Aerosol Research, Portland, OR, October 25-29, 2010.
72. Casari, Mathew, Andrew Vize, Britt Holmén, Jeff Frolik (2010) Poster A Portable Ultrafine Particle Sizer (PUPS) for in-situ Engine Exhaust Monitoring. 29th Annual Conference of the American Association for Aerosol Research, Portland, OR, October 25-29, 2010.
71. Barrett, T., Britt A. Holmén (2010) Development and Characterization of the NanoAPA, a Portable Instrument for Real- Time Measurement of the Size and Number of Airborne Nanoparticles. 29th Annual Conference of the American Association for Aerosol Research, Portland, OR, October 25-29, 2010.
70. Sharma, V., Naomi K Fukagawa, Britt Holmén (2010) Collection and Regeneration of Biodiesel Exhaust Particles for Off-Line Inhalation Toxicology Studies. 29th Annual Conference of the American Association for Aerosol Research, Portland, OR, October 25-29, 2010.

69. Sentoff, Karen M., Mitchell K. Robinson, Britt A. Holmén (2010) Characterization of Unregulated Emissions from Comparable Light-Duty Hybrid and Conventional Vehicles during Real-World Driving with TOTEMS. 29th Annual Conference of the American Association for Aerosol Research, Portland, OR, October 25-29, 2010.
68. Robinson, M.K., Britt A. Holmén (2010) Second-by-Second On-Board Real-World Particle Number Emissions for Comparable Conventional and Hybrid- Electric Gasoline Vehicles in a City Driving Environment. 29th Annual Conference of the American Association for Aerosol Research, Portland, OR, October 25-29, 2010.
67. Stevens*, N. and B. Holmén (2009) Effect of Substrate Character on Heterogeneous Ozone Reaction Rate with Individual PAHs and Their Reaction Mixtures, American Geophysical Union Fall Meeting, San Francisco, CA, 14–18 December 2009.
66. Kasumba,* J., B.Holmén, A. Hiscox, J. Wang, D. Miller Measurement of Agricultural Field Emissions – Real World Herbicides in Vapor and Particle Phases, 28th Annual Conference of the American Association for Aerosol Research, Minneapolis, MN, October 26-30, 2009.
65. Robinson*, M, K. Sentoff* and B.A. Holmén (2009) Characterization of Particle Number Emissions for Hybrid and Conventional Gasoline Vehicles Under Varying Operating Parameters. American Association for Aerosol Research Annual Meeting, October 2009, Minneapolis, MN.
64. Barrett*, T. and B.A. Holmén (2009) Characterization of a Portable Nanoparticle Sizing Instrument featuring a MEMS-fabricated Corona Ionizer and Differential Mobility Analyzer. American Association for Aerosol Research Annual Meeting, October 2009, Minneapolis, MN.
63. Casari*, M, A. Vize*, J. Frolik, S. Titcomb, B. A. Holmén: (2009) Development of a Portable Ultrafine Particulate Sizer (PUPS) for use in in-situ Engine Exhaust and Environmental Particulate Monitoring. American Association for Aerosol Research Annual Meeting, October 2009, Minneapolis, MN.
62. Sentoff*, K.M., M.K. Robinson*, B.A. Holmén (2009) On-board Quantification of Hybrid and Conventional Vehicle Tailpipe Emissions Variable Terrain”, American Association for Aerosol Research Annual Meeting, October 2009, Minneapolis, MN.
61. Stevens*, N. and B. Holmén (oral) Reaction Rate and Product Formation from the Heterogeneous Reaction of Gaseous Ozone with PAHs adsorbed to diesel exhaust particulate and quartz fiber filters. American Association for Aerosol Research 28th Annual Conference. Minneapolis, MN. Oct 2009
60. Stevens*, N.T., D. Nielsen**, and B.A. Holmén (2008) Heterogeneous Reaction Products of Bio-versus Petro-diesel Particles with Ozone, American Association for Aerosol Research 27th Annual Conference. Orlando, Fl. Oct 2008
59. Nielsen**, Dan; Tucker Stevens*, Britt Holmén (2008) Size-resolved reactivity of engine combustion particulate matter with ozone. American Association for Aerosol Research 27th Annual Conference. Orlando, Fl. Oct 2008
58. Nielsen**, Dan, N. Tucker Stevens*, Britt A. Holmen (2008) Comparison of Extraction Techniques for Size Resolved Analysis of Engine Combustion Particulate Matter with Ozone. ,” 37th Northeast Regional Meeting of the American Chemical Society. Burlington, VT. July, 2008.
57. Stevens*, N.T.; D. Nielsen**, and B.A. Holmén (2008) Atmospheric Aging of Biodiesel Exhaust Particles, 37th Northeast Regional Meeting of the American Chemical Society. Burlington, VT. July, 2008.
56. Stevens*, N.T. and B.A. Holmén (2008) Reactions of PAHs in a model substrate, diesel exhaust, and biodiesel exhaust with ozone. The University of Vermont Student Research Conference. Burlington, VT. April 2008.
55. April L. Hiscox*, David R. Miller, Junming Wang, Britt A. Holmén, Wenli Yang (2007) Measurement and Derivation of Emissions Factors for Cotton Field Preparation. American Association for Aerosol Research 26th Annual Conference, Reno, NV, September 24-28, 2007.
54. Holmén, Britt A. (2007) Ultralow sulfur fuel and ultrafine particle number emissions from diesel transit buses: Evaluating fuel composition as an emissions control measure. American Chemical Society 233rd National Meeting, March 25, 2007, Chicago, IL.

53. Yang*, Wenli and Britt A. Holmén (2006) Desorption Of Anionic And Nonionic Surfactant-Formulated Herbicides From Soils To The Air Under Various Relative Humidity Conditions. American Association for Aerosol Research 26th Annual Conference, St. Paul, MN, September 10-15, 2006.
52. Gao**, Oliver H. and Britt A. Holmén (2006) Temporal Alignment In On-Board Diesel Transit Bus Particle Measurement And Modal Emissions Analysis, American Association for Aerosol Research 26th Annual Conference, St. Paul, MN, September 10-15, 2006.
51. Chen**, Zhong and Britt A. Holmén (2006) Atmospheric Transformation Of Organic Compounds On Ultrafine Diesel Particles American Association for Aerosol Research 26th Annual Conference, St. Paul, MN, September 10-15, 2006.
50. Holmén. B., D. Miller, A. Hiscox*, W. Yang*, J. Wang, T. Sammis and R. Bottoms (2006) Particulate Emissions from Agricultural Field Operations. Proceedings Workshop on Agricultural Air Quality, State of the Science. Potomac, MD. June 5-8 2006.
49. Miller, D. R., A. Hiscox*, B. A. Holmén, W. Yang*, T. Sammis, R. Bottoms. (2005) Aerosol Plumes Emitted from Field Planting Operations Measured with LIDAR. Paper # 054050 ASAE Annual Meeting. Tampa Fla. July 17-20.
48. Holmén, B.A., Z. Chen** (2005) Gas and Particle Oxidation Products from Ozone Aging of Airborne Diesel Particles. Fall 2005 American Geophysical Union meeting, San Francisco, CA December 5-9, 2005.
47. Nanzetta, K.*, D. Niemeier, B.A. Holmén (2005) Single diameter real time ultrafine number concentration measurements and relationships to meteorology and traffic volumes for a northern California freeway. American Association for Aerosol Research, 24th Annual Conference, Austin, TX, October 17 - 21, 2005.
46. Qu, Y.*, E. Jackson*, B. A. Holmén, L. Aultman-Hall, (2005) Variability in On-Board Measurements of Light-Duty Vehicle Particle Number Emissions: Driver and Road Type. American Association for Aerosol Research, 24th Annual Conference, Austin, TX, October 17 - 21, 2005.
45. Yang, W.* and B.A. Holmén (2005) Gas/Solid Partitioning of Chloroacetanilide and Dinitroaniline Herbicides as a Function of Relative Humidity in the Presence of Surfactants. American Association for Aerosol Research, 24th Annual Conference, Austin, TX, October 17 - 21, 2005.
44. Davila, A.C.*, D. Vikara*, O. Gao**, B.A. Holmén (2005) On-board Particle Number Distributions from Hybrid-Electric and Conventional Diesel Buses as a Function of Road Type. American Association for Aerosol Research, 24th Annual Conference, Austin, TX, October 17 - 21, 2005.
43. Chen, Z.**, Holmén, B.A. (2005) Heterogeneous Reactions between Diesel Particulate Matter and Ozone. American Association for Aerosol Research, 24th Annual Conference, Austin, TX, October 17 - 21, 2005.
42. Holmén, B.A., A. C. Davila*, D. Vikara*, Z. Chen** (2005) On-board measurements of particle number and mass emissions from hybrid-electric and conventional diesel transit buses. AWMA specialty conference: Diesel Exhaust: Partnering with Stakeholders to Reduce Emissions, October 6-7, 2005, Oak Brook, IL.
41. Yang, W.* and B.A. Holmén. (2005) Desorption kinetics of chloroacetanilide and dinitroaniline herbicides from unsaturated soil in the presence of surfactants. 229th ACS National Meeting, San Diego, CA, March 13-17, 2005.
40. Chua, B. L.; Zhang, M.; Huber, J. M.; Broeke, R. G.; Wexler, A. S.; Tien, N. C.; Niemeier, D. A.; Holmen, B. A., A configuration for high flow rate, high efficiency and low pressure loss micromachined active air filtration element for airborne micro-nanoscale particles separation and removal. 18th IEEE International Conference on Micro Electro Mechanical Systems 2005, 718-21|xxxvii+886.
39. Yang, W.* and B.A. Holmén. (2004) Effects of Surfactants on Gas/PM2.5 Partitioning of Herbicides. American Association for Aerosol Research, 23rd Annual Conference, October 4-8, 2004 Atlanta, GA.

38. Chen, Z.** and B.A. Holmén. (2004) Surface Oxidation of Diesel Particulate Matter in the Presence of O₃ and NO_x: Direct TD/GC/MS Analysis. American Association for Aerosol Research, 23rd Annual Conference, October 4-8, 2004 Atlanta, GA.
37. Holmén, B.A. J. Warhola, D. Vikara*, Z. Chen**, R. Mamani-Paco*. (2004) On-Board Diesel and Hybrid Diesel-Electric Transit Bus PM Mass, Particle Number Distributions, and Size-Resolved Number Concentrations. American Association for Aerosol Research, 23rd Annual Conference, October 4-8, 2004 Atlanta, GA.
36. Yang, W.* and B.A. Holmén. (2004) Effects of Surfactants on Gas/Solid Partitioning of Herbicides. 20th Annual International Conference on Soils, Sediments and Water, October 18-21, 2004 Amherst, MA.
35. Niemeier, D. and B.A. Holmén. (2004) Evaluation of Single-Diameter SMPS Sampling for Capturing Roadside Particle Dynamics. American Association for Aerosol Research, 23rd Annual Conference, October 4-8, 2004 Atlanta, GA.
34. Chua, B.L.* , A.S. Wexler, N.C. Tien, D.A. Niemeier and B.A. Holmén. (2004) Collection Of Non-Gas Phase Airborne Nanoparticles By microfabricated Corona Electrostatic Precipitator. AIAA CANEUS 2004-Conference on Micro-Nano Technologies, Monterey CA.
33. Chua, B.L.* Z. Li, D.T. McCormick, W.P. Shih, N.C. Tien¹, A.S. Wexler, D.A. Niemeier, B.A. Holmén. (2004) A unipolar corona discharge microfabricated ionizer structure for gases at atmospheric pressure and composition. 17th International IEEE International Conference on Microelectromechanical Systems, MEMS 2004, Jan 25-29, 2004, Maastricht, The Netherlands.
32. Yang, W.* and B.A. Holmén. (2003) Effect of Field Formulation on Gas/Solid Partitioning of Herbicides. American Association for Aerosol Research, 22nd Annual Conference, October 20-24, 2003 Anaheim, CA.
31. Nadim, F., J.* Iranmahboob, B.A. Holmén, G.E. Hoag, C. Perkins, A.M. Dahmani. (2003) Application Of Computer Models To Assess The Effects Of Emission-Reduction Programs For A Sustainable Urban Air Quality Management. Proceedings of the Iranian Academic Association Conference on Application of Technology In Urban Development, December 21 – 28, 2003, Shiraz – Isfahan – Arak – Hamedan, Iran.
30. Nadim, F., J.* Iranmahboob, B.A. Holmén, G.E. Hoag, C. Perkins, A.M. Dahmani. (2003) A New Generation Of Fuels And Motor Vehicles May Be The Solution To Atmospheric Pollution Problem Of Heavily Populated Urban Areas. Proceedings of the Iranian Academic Association Conference on Application of Technology In Urban Development, December 21 – 28, 2003, Shiraz – Isfahan – Arak – Hamedan, Iran.
29. Ayala, A., R. Okamoto, N. Kado, M. Gebel, P. Rieger, B.A. Holmén, P. Kuzmicky, R. Kobayashi (2002) CNG and Diesel Transit Bus Emissions in Review, 7th International ETH-Conference on Combustion Generated Particles, 18 – 20st August, 2003, Zurich, Switzerland.
28. Shin, J.Y.** and B.A. Holmén. (2003) Gas/Particle Partitioning and Bulk Soil Sorption of Metolachlor and Pendimethalin. Northeast Agricultural & Biological Engineering Conference August 11-13, 2003, Storrs, CT.
27. Yang, W.* and B.A. Holmén. (2003) Desorption of Formulated and Pure Herbicides from Soil to Air. Northeast Agricultural & Biological Engineering Conference August 11-13, 2003, Storrs, CT.
26. Ayala, A. and B.A. Holmén. (2003) Comparison of particle size distributions for diesel and CNG transit buses with aftertreatment. 13th CRC On-Road Vehicle Workshop, April 7-9, 2003, San Diego, CA.
25. Ayala, A.; N.Y. Kado, R.A. Okamoto, M.E. Gebel, P.L. Rieger, P.A. Kuzmicky, R. Kobayashi, B.A. Holmén. (2003) Comparison of Emissions from diesel and CNG buses with after-treatment. 4th World Truck Conference, March 2-4, 2003, Monterey, CA.
24. Holmén, B.A. and A. Ayala (2002) Oxidation catalyst effects on natural gas transit bus ultrafine particle emissions, 6th International ETH-Conference on Nanoparticle Measurement, 19 – 21st August, 2002, Zurich, Switzerland.

23. Nanzetta, K.*, B.A. Holmén (2002) Roadside Particle Number Distributions and Relationships Between Number Concentrations, Meteorology, and Traffic along a Northern California Freeway, AGU Fall Meeting, December 2002, San Francisco CA.
22. Nanzetta, K.*, B.A. Holmén (2002) Roadside Particle Number Distributions and Relationships Between Number Concentrations, Meteorology, and Traffic along a Northern California Freeway, American Association for Aerosol Research, 21st Annual Conference, October 7-11, Charlotte, NC.
21. Holmén, B.A. and A. Ayala (2002) Natural gas transit bus ultrafine particle emissions: laboratory dilution and number distributions, American Association for Aerosol Research, 21st Annual Conference, October 7-11, 2002 Charlotte, NC.
20. van Bergen, S.*, B.A. Holmén (2001) Characterization of Source Signatures of Fine Roadway Particles by Pyrolysis-GC-MS. EOS Trans. AGU 82 (47), Fall Meeting Suppl. Abstract A41B-0029, 2001. American Geophysical Union Fall Meeting, San Francisco, CA, December 10-14, 2001.
19. Hefner, B.T.**, K. Trzepla-Nabaglo, B.A. Holmén, R.G. Flocchini (2001) Toward Mass Calibration of Lidar Backscatter Signals: Preliminary Results from "Dual String" Field Technique. American Association of Aerosol Research Annual Meeting, Portland, OR, October 10-14, 2001.
18. Anastasio, C., J.M. Higa, A. Clymo*, B.A. Holmén, T. Young. (2001) Generation and atmospheric fate of pesticides on airborne soil dust. American Chemical Society 221st National Meeting, April 1-5, San Diego, CA. <INVITED>
17. Clymo, A.*, B.A. Holmén. (2000) Herbicide sorption to particulate matter derived from managed soils. UC Toxic Substances Research and Teaching Program Annual Symposium, April 28-29, San Diego, CA.
16. Clymo, A.*, B.A. Holmén, J.M. Higa, T. Young, C. Anastasio. (2000) Generation and transport of herbicide residues on airborne fine particulate matter derived from managed soils. Society of Toxicology & Environmental Chemistry, November 13-17, Nashville, TN.
15. Eichinger, W., B.A. Holmén, L. Chen. (1999) Wide Area Measurement of Wind Velocities by Lidar. International Water Resources Engineering Conference Seattle, WA. August 8-12.
14. Kuhna, K. M.*, B. A. Holmén. (1999) Bridge Runoff from a Rural California Highway as a Source of Metal Contamination in Small Streams. American Geophysical Union Fall Meeting, December 13-17, 1999. San Francisco, CA.
13. Holmén, B.A., W.E. Eichinger, R.G. Flocchini. (1999) Spatially distributed wind field measurement by lidar cross correlation technique. American Geophysical Union Fall Meeting, December 13-17, 1999. San Francisco, CA.
12. Holmén, B.A., W.E. Eichinger, R.G. Flocchini. (1999) Quantifying PM10 emission factors from agricultural nonpoint sources with lidar. Optical Remote Sensing, Santa Barbara, CA, June 22, 1999.
11. J.D. Sison*, B.A. Holmén, D. Nelson, W.H. Casey[&]. (1997) Hydroxamate Siderophores: Iron Sources or Sinks? 213th American Chemical Society National Meeting, San Francisco, CA, April 13-17.
10. Holmén, B.A., P.M. Gschwend[&]. (1997) Aquifer sorbent textures and PAH sorption kinetics. American Geophysical Union, San Francisco, CA. December 8-12.
9. Gschwend[&], P., O. Gustafsson, B.A. Holmén. (1996) "Two possible explanations for slow sorption kinetics: (a) the presence of soot in surface soils and sediments, and (b) the physical encapsulation of natural organic matter in geologically formed solids". Workshop on Chemical Processes that May Bind or Sequester Organic Contaminants in Soils and Sediments, Carnegie Mellon University, Pittsburgh, PA., May 2-3, 1996.
8. Holmén, B.A., J.D. Sison, D. Nelson, W.H. Casey[&]. (1996) Gordon Conference, Environmental Sciences: Water. New Hampton School, NH.
7. Holmén, B.A. and P.M. Gschwend[&]. (1994) Evaluation of sorption kinetics in an Atlantic Coastal Plain aquifer sand. 207th American Chemical Society National Meeting, San Diego, CA, March 13-18, 1994.

6. Holmén, B.A. and P.M. Gschwend[&]. (1994) Sorption kinetics in an Atlantic Coastal Plain aquifer sand. 208th American Chemical Society National Meeting, Washington, DC, August 21-26.
5. Taylor, B., D. Mauro, M.B. Hayes, B.A. Holmén, M. Young. (1989) Composition and migration of coal tar-derived organic compounds in a sandy aquifer. Proceedings: Environmental Research Conference on Groundwater Quality and Waste Disposal; May 2-4, 1989, Washington, D.C. Electric Power Research Institute, EN-671992 Gordon Conference Participant, Environmental Sciences: Water. New Hampton School, NH.
4. Kring, D. A.; Holmén, B. A., Petrology of Anorthite-Rich Chondrules in CV3 and CO3 Chondrites. Meteoritics 1988, 23, (3), 282-283.
3. Holmén, B.A. and J.A. Wood. (1987) Refractory inclusions in the Kaba CV3 chondrite. 50th Meteoritical Society Meeting, Newcastle-Upon-Tyne, England. Meteoritics 22 (4), 413.
2. Holmén, B.A. and J.A. Wood. (1986) Chondrules that indent one another: Evidence for hot accretion? 49th Meteoritical Society Meeting, New York, New York. Meteoritics 21 (4), 399.
1. Holmén, B.A. and J.R. Delaney[&]. (1985) Fluid compositional constraints on recharge and upflow portions of a BOI, NFLD, hydrothermal system, EOS, Transactions, American Geophysical Union, 66, 402.

RESEARCH REPORTS

17. Fukagawa, N. and B.A. Holmén (2015) Biological Inflammatory and Metabolic Effects of Petro-and Bio-diesel Exhaust Particulate Matter Emissions from a Light-Duty Diesel Engine. University of Vermont Transportation Research Center Report No. 15-009, Burlington, VT. 14 pages.
16. Holmén, Britt A. (2014) Evaluation of Transportation/Air Quality Model Improvements Based on TOTEMS On-road Driving Style and Tailpipe Emissions Data. Report 14-012, UVM Transportation Research Center, July 2014, 41 pages.
15. Holmén, Britt A., John Kasumba, Philip Cannata (2014) Quantifying Biodiesel Fuel Effects on Light-Duty Diesel Engine Particle Composition by GCMS. Report 14-009, UVM Transportation Research Center, July 2014, 66 pages.
14. Holmén, Britt A., Tyler Feralio, James Dunshee, Karen Sentoff (2014) Tailpipe Emissions and Engine Performance of a Light-Duty Diesel Engine Operating on Petro- and Bio- diesel Fuel Blends. Report 14-008, UVM Transportation Research Center, July 2014, 93 pages.
13. Holmén, Britt A., Mitchell Robinson, Matthew Conger, Karen Sentoff (2014) Light-Duty Gasoline Hybrid-Electric and Conventional Vehicle Tailpipe Emissions Under Real-World Operating Conditions. Report 14-007, UVM Transportation Research Center, July 2014, 107 pages.
12. Jackson, Eric; Lisa Aultman-Hall, Britt A. Holmén (2014) Vehicle, Driver and Atmospheric Factors in Light-Duty Vehicle Particle Number Emissions. Report 14-006, UVM Transportation Research Center, July 2014, 34 pages.
11. Wang, Junming, April L. Hiscox, David R. Miller, Ted W. Sammis, Wenli Yang, Britt A. Holmén (2009) A Note on the Measurement of Dust Emissions from Moving Source Agriculture Field Operations. NMSU Experiment Station Bulletin. Las Cruces NM.
10. Holmén, Britt A., Mitchell Robinson, Karen Sentoff, Paul Montane, Kevin Hathaway (2009). Proof-of-Concept Report: The On-Board Tailpipe Emissions Measurement System (TOTEMS), Report to the UVM Transportation Research Center 10-0015, June 2009, 55 pages.
9. Holmén, B.A., Jackson, E., Sonntag, D., Gao, O.H. Detailed modal analysis of particulate emissions from Connecticut Transit buses for local emissions modeling. Report to the Joint Highway Research Advisory Council of the Connecticut Cooperative Highway Research Program, Project 05-09, May 2008.
8. Holmén, Britt A., Anna Conterato, Nicholas Meltzer, Kate Lidie Johannesen (2008) Phase 2 Dust Study For The Omya Facility In Florence Vermont Total Suspended Particulate (Tsp): Methodology And Data Summary. Final Report To Cambridge Environmental Inc., January 9, 2008

7. Holmén, B.A., Z. Chen, A. C. Davila, O. Gao, J. Lewandowski, D. M. Vikara (2005) Particulate matter emissions from hybrid-electric diesel and conventional diesel transit buses: fuel and aftertreatment effects. Report to Connecticut Transit (CTTRANSIT) and the Joint Highway Research Advisory Council of the Connecticut Cooperative Highway Research Program, June 30, 2005. http://www.ct.gov/dot/LIB/dot/documents/dresearch/CT_JHR_05-304_JH_03-8.pdf
6. Holmén, B.A., L. Aultman-Hall (2005) Women in Engineering Leadership Summit: Conference Overview and Summary. Final Report on the NSF-sponsored conference hosted at the University of Connecticut, May 3-5, 2004, published February 2005, (83 pages).
5. Holmén, B.A., M.K. Nanzetta (2004) Summary of CARB Diesel-CNG Transit Bus Emissions Project Phase 1A Panel Mode (Single-Diameter) SMPS Data. Final Report to the California Air Resources Board, June 2004.
4. Holmén, B.A. (2003) Phase 1B Particle Size Distribution Results: Full and Single Diameter SMPS Data for Compressed Natural Gas Buses with and without Oxidation Catalysts. Final Report to the California Air Resources Board, June 2003.
3. Holmén, B.A., D. A. Niemeier, M.K. Nanzetta, S. van Bergen (2001) The Physical and Chemical Characterization of Ultrafine and Nanoparticle Particulate Matter Emissions from Gasoline and Diesel On-Road Motor Vehicles: Phase I – Scoping Study, Interim Report to California Air Resources Board, December 31, 2001.
2. Holmén, B.A., R. Shiraki (2001) Pilot Study of Crystalline Silica in Ambient Air in Lompoc, California. Final Report to the California Air Resources Board, August 20, 2001.
1. Holmén, B.A., R. Shiraki (2001) Near-Source Exposure to Crystalline Silica in California: Pilot Study. Final Report to the California Air Resources Board under contract 98-348, August 2001.

RECENT AND NOTABLE PROFESSIONAL ACTIVITIES – EXTERNAL

- Editorial Board for Elsevier Journal *Transportation Research Part D: Environment* (2017-)
- EPA MOVES Review Work Group. Federal Advisory Committee Act (FACA) Mobile Sources Technical Review Subcommittee. (2016 to present)
- Education Committee, American Association for Aerosol Research (AAAR), 2013-2016)
- Journal Reviews in 2016:
 - a. *Environmental Science & Technology*
 - b. *Transportation Research Record*
 - c. *Transportation Research Part D*
 - d. *Science of the Total Environment*
 - e. *Aerosol Science and Technology*
 - f. *Journal of Environmental Quality*
 - g. *Journal of Visualized Experiments*
- NSF Conference Chair, WELI: Women in Engineering Leadership Summit, May 3-5 2004, University of Connecticut

RECENT AND NOTABLE UNIVERSITY SERVICE

- UVM Presidential Search Faculty Panel (2018 - 2019)
- CEMS representative, Faculty Senate Committee of Research, Scholarship & The Creative Arts (RSCA) (2018 -)
- Director, Transportation Air Quality Lab (TAQLab) (2006-present)
- UVM Transportation Research Center, Faculty Advisory Board (2006-present)
- New STEM Building Design Advisory Committee (2014-present)
- Environmental Engineering Curriculum Re-design Committee Chair (2016)
- UVM Goldwater Scholars review committee (2016)
- University-wide Environmental Curriculum Coordinating Committee (2014-2016)
- Chair, Faculty Search Committee (2 positions) – Chem/Bio (2013-2014)
- Graduate Program Coordinator, Civil & Environmental Engineering (2009-2012)
- University of Vermont Environmental Council (2006-2010)
- UVM President's Commission on Racial Diversity (2007-2010)
- College of Engineering Laboratory Safety Committee (2009-2011)
- UConn Plagiarism Task Force of Scholastic Standards Committee (2002-2004)
- UC Davis, Opportunities in Engineering and Science Steering Committee (1997-2001)

SUMMARY OF TEACHING: University of Vermont (5-point evaluation scale)

Course	Level	Semester Taught	Average Rating	
			Holmén	Dept
ENGR 101 – Engineering Communications (new course designed by me focused especially on technical writing & oral communication)	NA	F 2016	4.2	NA
		S 2016	4.6	3.8
		F 2015	3.6	4.0
CE 250 – Environmental Organic Chemistry	Senior/Grad	S 2018	4.8	3.92
		S 2014	4.5	3.9
		F 2010	4.0	4.0
		F 2008	4.4	4.0
CE 132 – Environmental Systems	Soph	F 2017	4.3	3.9
		F 2018	3.4	NA
CE 154 & 254 - Analytical Practice for Environmental Scientists & Engineers	Junior, Senior	S 2018	4.65	3.92
		F 2015	4.4	4.0
		F 2014	3.4	3.8
		F 2013	3.7	3.7
		S 2012	4.4	3.4
		S 2011	4.5	3.8
		S 2010	4.6	4.0
		S 2009	4.1	3.6
CE 10 – Geomatics	Soph	F 2008	4.2	3.8
		F 2007	3.3	NA
CE 253 - Transportation and Air Quality * OL = online format	Senior/Grad	F 2017	3.43	3.92
		S 2016	4.3	3.8
		S 2015	3.8	3.7
		S 2013	3.7	3.7
		F 2011	4.6	3.7
		F 2010	4.4	3.9
		F 2009 OL	4.2	3.7
		F 2008 OL	4.2	3.7
S 2007	4.3	NA		
EE/ME 185 – Senior Design in Electrical and Mechanical Engineering (SEED)	Senior Design	F 2009	Diesel Project Advisor	
		S 2010		
		F 2008	GMRC Project Advisor	
		S 2009		

SUMMARY OF TEACHING: University of Connecticut (10-point evaluation scale)

Course (Descriptions Below)	Level	Semesters Taught	Average Rating	
			Holmén	Dept
ENVE 301 "Environmental Organic Chemistry"	Graduate	S 2002	8.1	8.2
CE 320 "Transportation and Air Quality"	Graduate	F 2002	8.9	8.8
CE/ENVE 305 "Transp. & Air Quality"	Graduate	F 2003	8.0	8.5
CE/ENVE 262P "Environmental Engineering Laboratory"	Junior-Senior	S 2002	8.5	8.5
		S 2004	9.0	8.6
		S 2006	9.5	8.6
CE/ENVE 263 "Environ Engr. Fundamentals"	Soph-Sen	F 2004	7.6	8.2
ENVE 110 "The Environmental Debate"	Sophomore - Senior	S 2002	8.3	8.3
		S 2003	9.0	9.0
ENGR 166 "Foundations of Engineering"	Freshman	S 2003	7.5	8.4
CHEG/ENVE 285 "Air Pollution"	Jun-Senior	S 2004	8.9	8.2
ENVE 290W "Environ Eng. Design I"	Senior	F 2005	NA	NA
ENVE 291W "Envir.Eng. Design II"	Senior	S 2006	NA	8.6