

CURRICULUM VITAE
ANDRÉ J. BUTLER, Ph.D.

Current Address, Telephone Number and E-mail:

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Educational Background:

Ph.D. in Environmental Engineering, 2000
Georgia Institute of Technology, Atlanta, GA

M.E. in Mechanical Engineering, 1995
Carnegie Mellon University, Pittsburgh, PA

B.S. in Mechanical Engineering, Campus Honors, 1993
University of Illinois, Urbana, IL

Employment History:

2007 - Present

Associate Professor, Environmental and Mechanical Engineering,
Mercer University, Macon, GA

- Teach courses in environmental and mechanical engineering
- Conduct fundamental and interdisciplinary air quality research

2000 - 2007

Assistant Professor, Environmental and Mechanical Engineering,
Mercer University, Macon, GA

1998 - 2000

Environmental Engineer, Air, Pesticides and Toxics Management
Division, U.S. Environmental Protection Agency, Atlanta, GA

- Provided oversight for the Region 4 PM_{2.5} Speciation Program

1995 - 2000

Graduate Research Assistant, School of Civil & Environmental
Engineering, Georgia Institute of Technology, Atlanta, GA

- Built ambient air quality monitoring equipment, performed chemical analyses of ionic, metallic, and carbonaceous species, and performed statistical and geostatistical analyses of data in support of the Assessment of Spatial Aerosol Composition in Atlanta (ASACA) Project

1993 - 1995

Graduate Research Assistant, Mechanical Engineering Department,
Carnegie Mellon University, Pittsburgh, PA

- Performed material analyses and recycle feasibility study for automobile batteries

1992 - 1995

Summer Intern, Ford Motor Company, Dearborn, MI

- Performed exhaust system analyses for light truck models
- Conducted Failure Mode and Effect Analyses (FMEA) for door latch mechanisms
- Participated in engineering launch team activities for the Thunderbird/Cougar (MN-12) program

1. Teaching Effectiveness:

1.1 Courses taught at Mercer University

EGR 107 Introduction to Engineering Design
EGR 126 Introduction to Problem Solving
EGR 252 Applications of Engineering Mathematics
EVE 290 Introduction to Environmental Engineering
EVE 290L Introduction to Environmental Engineering Laboratory
EVE 403 Atmospheric Chemistry
EVE 445L Senior Environmental Engineering Laboratory
EVE 486 Public Health
EVE 491 Statistical Procedures for Environmental Engineers
MAE 302L Mechanical Engineering Laboratory I
MAE 402L Mechanical Engineering Laboratory II
MAE 491 Solar Energy Utilization

1.2 Course taught at Georgia Institute of Technology

CE 4100 Introduction to Environmental Engineering

1.3 Course taught at University of Illinois - Urbana

ENG 199 Introduction to Engineering

1.4 Graduate research supervision

- M.S. thesis committee member for Melissa K. Antoine, 2002
Environmental Engineering, Georgia Institute of Technology
Thesis Title: *"Transport Characteristics and Regional Source Assessment of PM_{2.5} in Atlanta: Cluster Analysis and Potential Source Contribution Function Analysis"*

1.5 Undergraduate research supervision

- Vivyan O. Frank and Jennifer L. Sheppard, Fall 2005
Project Title: *"Passive Ozone Sampling Beyond the Peak Photochemically-Active Months: Relationships and Comparisons to Continuous Methods"*
- Sherri Radney and Ayana Pusha, Spring 2004
Project Title: *"A Data Acquisition Program for the Collection and Statistical Analysis of Ozone Data"*
- Cheryl Rae Horn, Fall 2002
Project Title: *"PM_{2.5} Organic Carbon in Atlanta: Measurements and Statistical Relationships to EPA PAMS Data"*

- Shamekia McGriff, Summer 2001
Project Title: *"Statistical Modeling of PM_{2.5} Mass in Atlanta: Results from the First Two Years of the ASACA Study"*

1.6 Undergraduate research award

- Cheryl Rae Horn
"PM_{2.5} Organic Carbon in Atlanta: Measurements and Statistical Relationships to EPA PAMS Data." Awarded 3rd Place Prize in Student Poster Competition at the 2003 A&WMA National Convention in San Diego, CA

1.7 Senior design project supervision

- C.R. Johnson, S. Patel, O. Modin, and D. Adkins, Spring 2003
Project Title: *"Design of an Instrument to Collect PM_{2.5} Organic Carbon Samples"*

1.8 Freshman design (EGR 107) participation

- Design competition client for 2-3 teams, 2003-2005

1.9 Teaching awards

- Who's Who Among America's Teachers, 2004-2005
- Mercer University School of Engineering Teacher of the Year, 2002-2003

1.10 Educational workshop

- National Science Foundation Engineering Education Scholars Workshop, Leesburg, VA, August 2001

2. Technical Competence and Currency:

2.1 Academic consulting (2000 - 2004)

- Ted Russell, Helena Park, Herman Holm, and Melissa Antoine
Georgia Institute of Technology
 - Regular communication regarding PM_{2.5} air monitoring equipment and sample analyses

2.2 Government consulting (2000 - Present)

- Douglas Jager and Richard Guillot
U.S. Environmental Protection Agency, Region 4
 - Regular communication regarding PM_{2.5} speciation analyses and temporal and spatial ozone distribution

2.3 Conferences attended

- Air & Waste Management Association National Convention
 - New Orleans, LA, 2006
 - San Diego, CA, 2003
 - Baltimore, MD, 2002
 - Salt Lake City, UT, 2000
 - San Diego, CA, 1998

- American Association for Aerosol Research Annual Conference
 - San Francisco, CA, 2001
- American Society for Engineering Education National Convention and Exposition
 - Chicago, IL, 2006
 - Portland, OR, 2005
- American Society for Engineering Education SE Section Meeting
 - Auburn, AL, 2004
 - Macon, GA, 2003

2.4 Honors and awards

- Sloan Scholar, Georgia Institute of Technology, 1995-2000
- GEM Fellow, Carnegie Mellon University, 1993-1995
- Chancellor's Scholar, Univ. of Illinois - Urbana, 1988-1992

2.5 Review of technical papers

- Journal of the Air & Waste Management Association, 2005, 2006
- Environmental Engineering Science, 2006, 2007

2.6 Memberships in professional societies

- Sigma Xi, 2006
- Air & Waste Management Association, 1998-present
- Association for Engineering Education, 2004-present

2.7 Professional licensure

- Engineer in Training, Georgia, License No. EIT022229, 2005

3. Scholarship:

3.1 Funded research project

- "Implementation of Inductively Coupled Plasma Optical Emission Spectroscopy into Chemistry, Environmental Engineering and Environmental Science Curricula," Arthur Salido (PI), André Butler, and Ajaz Karim (Co-Principal Investigators), National Science Foundation Award No. 0410461, August 2004, \$37,495.

3.2 Publications in refereed technical journals

- Butler, A.J., Andrew, M.S., and Russell, A.G. "Daily sampling of PM_{2.5} in Atlanta: Results from the first year of the ASACA study." *Journal of Geophysical Research*, 108(D7), 8415, doi:10.1029/2002JD002234, 2003.
- Solomon, P.A., W. Chameides, R.W. Weber, A. Middlebrook, C.S. Kiang, A.G. Russell, A. Butler, B. Turpin, D. Mikel, R. Scheffe, E. Cowling, E. Edgerton, J. St. John, J. Jansen, P. McMurry, S. Hering, and T. Bahadori. "Overview of the 1999 Atlanta Supersites Project." *Journal of Geophysical Research*, 108(D7), 8413, doi:10.1029/2001JD001458, 2003.

- Tolbert, P., Mulholland, J., MacIntosh, D., Xu, F., Daniels, D., Devine, O., Carlin, B., Klein, M., Dorley, J., Butler A., Nordenberg, D., Frumkin, H., Ryan, P.B., White, M. "Air pollution and pediatric emergency room visits for asthma in Atlanta." *Am. Journal of Epidemiology*, 151, 798-810, 2000.
- Mulholland, J.A., Butler, A.J., Wilkinson, J.G., Russell, A.G., and Tolbert, P.E. "Temporal and Spatial Distributions of Ozone in Atlanta: Regulatory and Epidemiologic Implications." *Journal of the Air and Waste Management Association*, 5, 418-426, 1998.

3.3 Publications in refereed conference proceedings

- Butler, A.J., Frank, V.O., and Sheppard, J.L., "Passive Ozone Sampling Beyond the Peak Photochemically-Active Months: Statistical Relationships and Comparisons to Continuous Methods." Proceedings of the Air and Waste Management Association National Convention, New Orleans, LA, 2006.
- Butler, A.J. and Hicks, P., "Student Diversity at the Mercer University School of Engineering." Proceedings of the American Society for Engineering Education, National Convention and Exposition, Chicago, IL, 2006.
- Mines, R.O., Lackey, L.W., and Butler, A.J., "Bench-Scale Digestion Studies." Proceedings of the American Society of Civil Engineers, World Environmental and Water Resources Congress, Omaha, NE, 2006.
- Butler, A.J. and Moses, W.M., "Introducing Experimental Design in Mechanical Engineering Laboratories." Proceedings of the American Society for Engineering Education, National Convention and Exposition, Portland, OR, 2005.
- Butler, A.J., "Engineering Research with Undergraduate Students: Success stories and pitfalls." Proceedings of the ASEE SE Section Conference, Auburn, AL, 2004.
- Horn, C.R., Butler, A.J., "PM_{2.5} Organic Carbon in Atlanta: Measurements and Statistical Relationships to EPA PAMS Data." Proceedings of the Air and Waste Management Association National Convention, San Diego, CA, 2003.
- Butler, A.J., Andrew, M.S., Russell, A.G., "Principal Components Analysis to Determine PM_{2.5} Source Contributions in Atlanta: Results from the First Year of the ASACA Study." Proceedings of the Air and Waste Management Association National Convention, Baltimore, MD, 2002.
- Butler, A.J., McGriff, S., Andrew, M.S., Russell, A.G., "Statistical Modeling of PM_{2.5} Mass in Atlanta: Results from the First Two Years of the ASACA Study." Proceedings of the Air and Waste Management Association National Convention, Baltimore, MD, 2002.

- Lackey, L.W., Mines, R.O., McCreanor, P.T., Butler, A.J., "Retooling the Environmental Engineering Laboratory Capstone Experience for ABET 2000." Proceedings of the American Society for Engineering Education Annual Conference & Exposition, 2002.
- Butler, A.J., Andrew, M.S., Holm, H., Parkmond, W., Russell, A.G., Hartsell, B., Edgerton, E., "Temporal and Spatial Assessment of PM_{2.5} Mass and Composition in Atlanta During the 1999 Supersite Study." Proceedings of the Air and Waste Management Association National Convention, Salt Lake City, UT, 2000.
- Butler, A.J., Mulholland, J.A., Russell, A.G., "Spatial Analysis of Ozone in Atlanta." Proceedings of the Air and Waste Management Association National Convention, San Diego, CA, 1998.

3.4 Invited presentations

- Butler, A.J. "PM_{2.5} Speciation: Preliminary Results in Atlanta." USEPA Region 4 Air Monitoring Workshop, Athens, GA, May, 2000.
- Butler, A.J., Mulholland, J.A., Wilkinson, J.G., "An Application of Kriging in Ambient Ozone Analysis." The Quadrangle Conference, Clemson, SC, February, 1997.

3.5 Dissertation/Project

- Ph.D. Dissertation: "*Temporal and spatial analysis of PM_{2.5} mass and composition in Atlanta.*" Georgia Institute of Technology, 2000, Advisor: A.G. Russell
- M.E. Project: "*Automobile battery recycling.*" Carnegie Mellon University, 1995, Advisors: R. Sturges and F.C. McMichael

4. Service:

4.1 Service to professional societies

- Reviewed manuscripts for ASEE SE Section Meeting, 2001, 2005
- Secretary, ASEE SE Section Bioengineering Division, 2004-2005
- Reviewed applications for ASEE SE Section Outstanding Teacher Award, 2002

4.2 Service to the University

- Mercer University Upward Bound Advisory Board, 2001-present
- Participant, Focus group investigating student perceptions of diversity on campus, 2006
- Instructor (paid), Student Support Services, Opportunity Scholars Program, 2002, 2005, 2006
- Participant, NSBE/SWE Faculty Talent Show, 2006

- Alternate, MUSE Representatives to the Mercer House of Delegates, 2004-2005
- Member, Search Committee for the Director of Recreational Sports and Wellness, 2004
- Mathematics instructor (paid), Mercer University Upward Bound Program, 2002 and 2003
- Member, Mercer University Commitment to Equity Subcommittee for the NCAA certification of Mercer's Athletics Program, 2002-2003
- Mentor, University Commons Undergraduate Mentoring Program, 2002
- Participant, Minority Professionals Student Connection, 2002
- Participant, "Mercer Madness" Faculty/Staff Basketball Game, 2000, 2001, 2002

4.3 Service to MUSE

- Faculty committee assignments
 - Assessment, 2005-2006, 2006-2007
 - Safety, 2000-2001, 2004-2005
 - Recruitment and Retention, 2000-2001, 2001-2002, 2004-2005
 - Equipment, 2002-2003, 2003-2004
 - Committee on Committees, 2001-2002, 2002-2003
- Faculty advisor, Mercer University Chapter of the National Society of Black Engineers, 2002-present
- Interviewer, Collegiate Fellows Competition, 2000-2005
- Client, EGR 107 design teams, 2001-2005
- Secretary to the MUSE faculty, 2002-2003, 2003-2004
- Freshman Advisor, 2001-2002, 2002-2003
- Instructor, Mercer ESCAPE Camp, 2001

4.4 Service to the community at-large

- Cleaned and performed basic landscape maintenance at the Calvary Refuge Center in Jonesboro, GA, as part of Project UNITE, 2006
- Delivered meals to needy individuals for Project Open Hand in Atlanta, 2005
- Performed basic landscape maintenance at Sacred Journey Hospice in McDonough, GA, as part of Project UNITE, 2004
- Cleaned and performed basic landscape maintenance at Dresden Elementary School in Chamblee, GA, as part of Project UNITE, 2003
- Science fair judge for local elementary, middle, and high school students, Macon State University, 2002

4.5 *Extra curricular activity*

- Vice President, Black Graduate Student Organization, Carnegie Mellon University, 1994-1995