

## **Anne C. Steinemann**

Professor, Department of Civil and Environmental Engineering  
Professor, Evans School of Public Affairs  
Director, The Water Center  
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### **Educational History**

Ph.D., 1993, Stanford University, Civil and Environmental Engineering

M.S., 1985, U.C.L.A., Civil and Environmental Engineering

B.S., 1984, U.C. Irvine, Civil and Environmental Engineering, Magna cum Laude

### **Employment History**

Research Associate	2004-present
Visiting Scientist	2003-2004
Climate Research Division, Scripps Institution of Oceanography	
Associate Professor	2000-2004
Assistant Professor	1995-2000
City and Regional Planning Program, Georgia Institute of Technology	
Adjunct Professor	1998-2004
School of Public Policy, Georgia Institute of Technology	
Adjunct Professor	2001-present
Marine and Environmental Systems, Florida Institute of Technology	
Postdoctoral Scholar	1993-1995
Dept. of Civil and Environmental Engineering, Stanford University	
Associate Director	1990-1992
Center for Teaching and Learning, Stanford University	
Visiting Faculty	1988-1989
Dept. of Computer Science, Linköping University, Sweden	
Engineering Hydrologist	1985-1988
U.S. Geological Survey, Menlo Park and San Diego, California	

## **Awards and Honors**

Appointed, Mayor Greg Nickels' Green Ribbon Commission.  
Seattle won "Most Livable City" award for Climate Action Plan developed by Commission (2005). Plan was adopted by more than 500 mayors in the U.S. (2007). Presented plan to Al Gore (2006). <http://www.seattle.gov/climate/about.htm>

American Water Resources Association, Outstanding Chapter of the Year, 2006.  
Faculty adviser to AWRA student chapter.

Appointed, "Special Adviser" to Governor of Georgia on water issues, 2000

Appointed, President's National Drought Policy Commission, workgroups, 2000

Hesburgh Award (Highest national honor for university teaching programs), 1999

Junior Faculty Teacher of the Year (Highest Institute Award), Georgia Tech, 1997

Outstanding Teacher of the Year (Highest College Award), Georgia Tech, 1996

National Science Foundation CAREER Award, 1998

American Association of University Women Scholar, 1993

Rotary Foundation International Scholar, 1998

University of California Regents Scholar, 1985

University of California Chancellors Scholar, 1984

Female Engineer of the Year, University of California, Irvine, 1984

Civil Engineer of the Year, University of California, Irvine, 1984

Tau Beta Pi, Engineering Honor Society

## **Affiliations and other appointments**

### Affiliations:

Scripps Institution of Oceanography, Research Associate

Florida Institute of Technology, Adjunct Faculty Member

## Publications

### Refereed archival journal publications

Fontaine, M., and Steinemann, A.C. "Assessing Vulnerability to Natural Hazards: An Impact-Based Method and Application to Drought in Washington State," *Natural Hazards Review* (forthcoming) 2007

Steinemann, A.C. "Fragranced Consumer Products and Hidden Hazards," *Environmental Impact Assessment Review* (in review)

Caress, S.M., and Steinemann, A.C. "National Prevalence of Fragrance Sensitivity," *Journal of Environmental Health* (in review)

Caress, S.M., and Steinemann, A.C. "National Population Study of Asthma's Prevalence, Etiology, Age of Onset, and Association with Chemical Hypersensitivity," *Journal of Occupational and Environmental Medicine* (in review) 2007

Padgett, P., Vandenbergh, M., Clarke, J.H., and Steinemann, A.C. "Individual CO<sub>2</sub> Emissions: A Comparison of Calculators" *Environmental Impact Assessment Review* (forthcoming) 2007

Booth, D.B., Visitacion, B., and Steinemann, A.C. "Costs and Benefits of Stormwater Management," (in submission) *ASCE Journal of Urban Planning and Development*

Vandenbergh, M.P., and Steinemann, A.C. "The Carbon Neutral Individual," *New York University Law Review* (accepted) 2007

Steinemann, A. "Using Climate Forecasts for Drought Water Management." *Journal of Applied Meteorology and Climatology* 45(10), 1353-1361, 2006.

Steinemann, A. and Cavalcanti, L. "Developing Multiple Indicators and Triggers for Drought Plans." *ASCE Journal of Water Resources Planning and Management*, 132(3): 164-174, 2006.

Alfaro, E., Pierce, D., Steinemann, A., Gershunov, A. "Relationships Between the Irrigation-Pumping Electrical Loads and the Local Climate in Climate Division 9, Idaho." *Journal of Applied Meteorology* 44(12): 1972-1978, 2005.

Caress, S. and Steinemann, A. "National Prevalence of Asthma and Chemical Hypersensitivity: An Examination of Potential Overlap." *Journal of Occupational and Environmental Medicine* 47(5):518-522, 2005.

Alfaro, E., Gershunov, A., Cayan, D., Steinemann, A., Pierce, D., and Barnett, T. "A Method for Prediction of California Summer Air Surface Temperatures." *EOS, Transactions American Geophysical Union* 85: 553, 557-558, 2004.

Caress, S. and Steinemann, A. "Prevalence of Hypersensitivity to Common Chemicals: A National Population Study." *Archives of Environmental Health* 59(6): 300-305, 2004

- Steinemann, A. "Human Exposure, Health Hazards, and Environmental Regulations." *Environmental Impact Assessment Review* 24(7/8): 695-710, 2004.
- Caress, S. and Steinemann, A. "Prevalence of Multiple Chemical Sensitivity: A population-based study in the Southeastern United States." *American Journal of Public Health* 94(5): 843-851, 2004.
- Steinemann, A. "Drought Indicators and Triggers: A Stochastic Approach to Evaluation." *Journal of the American Water Resources Association* 39(5): 1217-1234, 2003.
- Steinemann, A. "Implementing Sustainable Development: Pedagogy and Practice." *ASCE Journal of Professional Issues in Education and Practice* 129(4): 216-224, 2003.
- Beck, M.B., Steinemann, A., et al. "Developing a Concept of Adaptive Community Learning: Case Study of a Rapidly Urbanizing Watershed." *Integrated Assessment* 3(4): 299-307, 2003.
- Caress, S. and Steinemann, A. "A Review of a Two-Phase Population Study of Multiple Chemical Sensitivities." *Environmental Health Perspectives* 111(12): 1490-1497, 2003.
- Keysar, E. and Steinemann, A. "Integrating Environmental Impact Assessment with Master Planning: Lessons From the U.S. Army." *Environmental Impact Assessment Review* 22(6): 583-609, 2002.
- Caress, S., Steinemann, A., and Waddick, C. "Symptomatology and Etiology of Multiple Chemical Sensitivities in the Southeastern United States." *Archives of Environmental Health: An International Journal* 57(5): 429-436, 2002.
- Steinemann, A. "Improving Alternatives for Environmental Impact Assessment." *Environmental Impact Assessment Review* 21: 3-21, 2001. "Most Downloaded Article" of Journal (as of 2003).
- Steinemann, A. "Rethinking Human Health Impact Assessment." *Environmental Impact Assessment Review* 20: 627-645, 2000.
- Norton, B. and Steinemann, A. "Environmental Values and Adaptive Management." *Environmental Values* 10(4): 473-506, 2001.
- Gilbreath, J. and Steinemann, A. "Hazardous Pesticides in Developing Countries: A Case Study of Zambia, Africa." *Environmental Practice* 2: 311-317, 2000.
- Simon, K. and Steinemann, A. "Soil Bioengineering for Erosion Control and Slope Stabilization: Challenges for Planning and Engineering." *ASCE Journal of Urban Planning and Development* 126(2): 89-102, 2000.
- Cosgriff, B. and Steinemann, A. "Industrial Ecology for Sustainable Communities." *Journal of Environmental Planning and Management* 41(6): 661-672, 1998.
- Shepherd (Steinemann), A. "Drought Planning: Evaluating the Effectiveness of Plans." *ASCE Journal of Water Resources Planning and Management* 124(5): 246-251, 1998.

Shepherd (Steinemann), A. and Cosgriff, B. "Problem-Based Learning in Planning Education." *Journal of Planning Education and Research* 17(4): 348-357, 1998.

Coffin, S. and Shepherd (Steinemann), A. "Barriers to Brownfield Development: Lessons From Two Great Lakes States." *Journal of Public Works Management and Policy* 2(3): 258-266, 1998.

Shepherd (Steinemann), A. "Knowledge-Based Expert Systems: Critiquing versus Conventional Approaches." *International Journal of Expert Systems with Applications* 433-441, 1998.

Shepherd (Steinemann), A. and Bowler, C. "Beyond the Requirements: Improving Public Participation in EIA." *Journal of Environmental Planning and Management* 40(6): 725-738, 1997.

Shepherd (Steinemann), A. "Interactive Implementation: Improving Acceptance of Expert Systems." *Computers, Environment, and Urban Systems* 21(5): 317-333, 1997.

Shepherd (Steinemann), A. and Ortolano, L. "Organizational Change and EIA at the Electricity Generating Authority of Thailand." *Environmental Impact Assessment Review* 17: 329-356, 1997.

Shepherd (Steinemann), A. and Ortolano, L. "Strategic Environmental Assessment for Sustainable Urban Development." *Environmental Impact Assessment Review* 16: 321-335, 1996.

Shepherd (Steinemann), A. and Ortolano, L. "Water Supply System Operations: Critiquing Expert System Approach." *ASCE Journal of Water Resources Planning and Management* 122(5): 348-355, 1996.

Ortolano, L. and Shepherd (Steinemann), A. "Environmental Impact Assessment: Challenges and Opportunities." *Impact Assessment* 13(1): 3-30, 1995.

Shepherd (Steinemann), A. and Ortolano, L. "Critiquing Expert Systems for Planning and Management." *Computers, Environment, and Urban Systems* 18(5): 305-314, 1994.

Waern, Y., Steinemann, A., et al. "Communication Knowledge for Knowledge Communication." *International Journal of Man-Machine Studies* 37: 215-239, 1992.

Ortolano, L. and Steinemann, A. "New Expert Systems in Environmental Engineering." *ASCE Journal of Computing in Civil Engineering* 1(4): 298-302, 1987.

#### Refereed monographs:

Steinemann, A. "Nonpotable Ground Water in the Desert Area of Southeast California for Powerplant Cooling." *U.S. Geological Survey Water Supply Paper* no. 2343, 1989.

Farrar, C.D., Sorey, M.L., and Steinemann, A. "Hydrologic and Geochemical Monitoring in Long Valley Caldera, Mono County, California." *U.S. Geological Survey Open File Report* 80-4033, 1989.

#### Articles in professional journals

Shepherd (Steinemann), A. and Hausser, W. "Project XL: Reinventing Environmental Regulation by Building New Partnerships." *National Assoc. of Environmental Professionals News* 22(1):10-11, 1997.

Shepherd (Steinemann), A. and Simm, S. "The Integration of Environmental Impact Assessment with Major Investment Studies for Highway Planning." *Environmental Planning Quarterly* 14(2): 3-10, 1997.

### **Books**

Ott, W., Steinemann, A., and Wallace, L. (eds.) *Human Exposure Analysis*. CRC Press, Boca Raton, FL, 2007.

Steinemann, A., Apgar, W.C., and Brown, H.J. *Microeconomics for Public Decisions*. South-Western, Cincinnati, OH, 2006.

### **Chapters in books**

Steinemann, A. and Walsh, N. "Environmental Laws and Exposure Analysis." In Ott, W., Steinemann, A., and Wallace, L. (eds.) *Human Exposure Analysis*. CRC Press, Boca Raton, FL, pp. 487-513, 2007.

Steinemann, A., Hayes, M., and Cavalcanti, L. "Drought Indicators and Triggers." In Wilhite, D. (ed.) *Drought and Water Crises: Science, Technology, and Management Issues*. Marcel Dekker, NY, pp. 71-92, 2005.

Norton, B. and Steinemann, A. "Environmental Values and Adaptive Management." In Norton, B. (ed.) *Searching for Sustainability*. Cambridge, U.K.: Cambridge University Press, pp. 514-547, 2002.

Shepherd (Steinemann), A. "Post Project Monitoring and Impact Assessment." In Fittipaldi, J. and Porter, A. (eds.) *Environmental Methods Review: Retooling Impact Assessment for the New Century*. Washington, D.C.: Army Environmental Policy Institute, 1998.

Ortolano, L. and Shepherd (Steinemann), A. "Environmental Impact Assessment." In Vanclay, F. (ed.) *Social and Environmental Impact Assessment*. Chichester, U.K.: John Wiley & Sons, pp. 3-30, 1995.

## **Project reports to sponsors**

“Using NOAA Climate Forecasts with Hydrologic Assessment to Reduce Drought Vulnerability and Improve Water Management in Washington State,” Report to NOAA, April 2007.

“Reducing Drought Hazards by Improving Drought Plans,” Final Report submitted to the National Science Foundation, Civil and Mechanical Systems, Geotechnical and GeoHazards Systems Program, December 2006.

"The Economic Benefit of Incorporating Weather and Climate Forecasts into Western Energy Production" Final Report submitted to the National Oceanic and Atmospheric Administration, September, 2004.

"Interstate Drought Hazard Mitigation," Final Report submitted to the National Science Foundation, Civil and Mechanical Systems, Geotechnical and GeoHazards Systems Program, February 2004.

"Consideration of Environmental Factors in Transportation Systems Planning," Final Report submitted to the Federal Highway Administration, 2003.

"Reducing Drought Hazards by Improving Drought Plans," Report Submitted to the National Science Foundation, 2003.

"Drought Planning for the State of Georgia," Final Report delivered to the Georgia Department of Natural Resources, Pollution Prevention Assistance Division, 2002.

"Community Values and the Long-Term Ecological Integrity of Rapidly Urbanizing Watersheds," Final report submitted to the Environmental Protection Agency, 2002.

"A Multi-Criteria, Dynamic, and Place-Based Approach to Ecosystem Valuation," Final Report submitted to the National Science Foundation, Decision Making and Valuation for Environmental Policy, 1998.

"Evaluating the Effectiveness of Drought Response Strategies: A Knowledge-Based Approach," Final Report submitted to the National Science Foundation, 1998.

"Decision Support System for Industrial Drought Management," Final Report submitted to the Industrial Technology Research Institute, Hsinchu, Taiwan, and the Ministry of Economic Affairs in China, 1995.

"Comprehensive Framework for Drought Management: Models to Assist Industrial Water Decision Makers," Final Report submitted to the Industrial Technology Research Institute, Hsinchu, Taiwan, and the Ministry of Economic Affairs in China, 1995.

## **Public Outreach Activities**

### **Significant Activities and Events**

*As Director of The Water Center, I developed and led the following:*

The Water Center Annual Review, 2005, 2006, 2007, (300-400 attendees each year)

Environmental Health Lecture Series, 2007 (more than 300 attendees)

The Water Center Seminar Series (75-100 attendees each week in 2007)

Trout and Salmon Symposium, 2006

The Watershed Review (quarterly research newsletter to more than 3,000 constituents)

See other public outreach events and collaborations at end of document

Televised lectures (TVW, UWTV):

UW Alumni Association/UWEU, "Hidden Health Hazards: Everyday Exposures to Toxic Chemicals," Ocean to Stars Lecture Series, May 10, 2007.

Washington Council on International Trade. "Water Supply and Sanitation in Developing Countries: The Business Case," April 6, 2006.

Water Policy Symposium: Water for the Next 100 Years, "Effects of Climate Change and Climate Variability on Water Resources." February 28, 2006.

Denman Lecture Series, "Water Resources in the Pacific Northwest," November 17, 2005.

Science and Technology Roundtable, "Hidden Health Hazards: Everyday Exposures to Toxic Pollutants," Rainer Club, Seattle, November 10, 2005 (podcast)

UW Alumni Association/UWEI, "Climate Forecasts for Water Management," Ocean to Stars Lecture Series, February 23, 2005.

Recent Radio Interviews

KUOW, Seattle, WA, Nov. 7, 2006

KQKE, San Francisco, CA, Nov. 30, 2006

Newspaper Interviews

San Francisco Chronicle, "Ad firm with a first," Nov. 30, 2006

Wall Street Journal, "Apartments Embrace Earth-Friendly Focus," Aug. 11, 2003.

### Puget Sound Environmental Inventory

Upon request of UW President Emmert, produced comprehensive report on UW activities in the Puget Sound Watershed. See [www.washington.edu/alumni/columns/march06/content/view/52/42/](http://www.washington.edu/alumni/columns/march06/content/view/52/42/)

### Global Water and Health Initiative at UW

Developing a new initiative in Global Water and Health at UW. Working directly with more than 150 participants (faculty, staff, students, non-governmental organizations, foundations, industries, agencies, government officials, and other stakeholders). Developing strategic plan.

### Strategic Plan, The Water Center

The result of a year-long process and individual discussions with more than 200 affiliates. See <http://depts.washington.edu/cwws/Outreach/Publications/strategicplan.html>

### Other media:

University Week, March 10, 2005 "Predicting Water Needs is Center's Specialty"

[http://admin.urel.washington.edu/uweek/archives/issue/uweek\\_story\\_small.asp?Search=steinemann&Submit=GO&id=2578&paget=searchresults](http://admin.urel.washington.edu/uweek/archives/issue/uweek_story_small.asp?Search=steinemann&Submit=GO&id=2578&paget=searchresults)

The Aquifer, Summer 2003, Climate Forecasts and Water Management

<http://www.groundwater.org/au/archives/AQ1801.pdf>

### Book Reviews:

Steinemann, A. 1999. "New Strategies for American's Watersheds" by the National Research Council *Journal of the American Planning Association* 66(2):214-216.

Steinemann, A. 1999. "Technology, Law, and the Working Environment" by Ashford, N. and Caldart, C. *Journal of Environmental Planning and Management* 42(1):140-141.

### **Other Scholarly Activity**

#### **Invited Lectures and Seminars**

UW Alumni Association/UWEU, "Hidden Health Hazards: Everyday Exposures to Toxic Chemicals," Ocean to Stars Lecture Series, May 10, 2007.

WISE (Women in Science and Engineering), "Tips for Students: Surviving and Succeeding in School and Beyond," February 3, 2007.

Civil and Environmental Engineering Seminar, "Hidden Health Hazards: Everyday Exposures to Toxic Chemicals." November 9, 2006.

KUOW, "Toxic Chemicals in Consumer Products: Effects on Human and Environmental Health." Public radio broadcast. November 7, 2006.

Board Meeting, UW-WSU Policy Consensus Center, "Effects of Climate on Water Resources," May 17, 2006.

Washington Weekend. Evans School of Public Affairs. "Sustainability of Puget Sound," April 28, 2006.

Washington Council on International Trade. "Water Supply and Sanitation in Developing Countries: The Business Case," April 6, 2006.

The Sunset Club. "Hidden Health Hazards: Everyday Exposures to Toxic Pollutants." March 13, 2006.

Water Policy Symposium: Water for the Next 100 Years, "Effects of Climate Change and Climate Variability on Water Resources." February 28, 2006.

Community, Environment and Planning Seminar, UW. "Sustainability and Indoor Environmental Quality." March 1, 2006.

Denman Lecture Series, "Water Resources in the Pacific Northwest," November 17, 2005, University of Washington.

American Water Resources Association, National Conference, "Water Resources Careers and Academia" November 9, 2005, Seattle, Washington.

NSF-ADVANCE, "Teaching Tips for Junior Faculty," November 14, 2005, University of Washington.

Science and Technology Roundtable, "Hidden Health Hazards: Everyday Exposures to Toxic Pollutants," Rainer Club, Seattle, November 10, 2005.

"Climate Forecasts for Water Management," Urban Ecology lecture, October 12, 2005

"Hidden Health Hazards: Everyday Exposure to Environmental Pollutants," Department of Civil and Environmental Engineering Staff, May 11, 2005.

"Education and Careers in Civil and Environmental Engineering," Presentation to the National Society of Black Engineers, May 10, 2005.

"Using Scientific Information for Decision-Making," School of Aquatic and Fishery Sciences, April 26, 2005.

"CAREER Proposal Strategies," School of Engineering Seminar, April 21, 2005.

"Everyday Exposures to Environmental Pollutants: Health Hazards, Sustainable Solutions," Civil and Environmental Engineering Seminar, March 31, 2005.

"House of horrors: Why your home may be unhealthy and unsustainable," Sustainability Society class, March 1, 2005.

"Climate Forecasts for Water Management," UWEI/UW Alumni Association lecture, February 23, 2005.

"Climate Forecasts for Water Management," Climate Impacts Group Seminar, November 30, 2004.

"Balancing Teaching, Research, and Service," College of Engineering, ADVANCE seminar, November 4, 2004.

"Tips for Students: Surviving and Succeeding in School and Beyond," American Water Resources Association Seminar, October 22, 2004.

"Drought Management: Integrating Science and Policy," Evans School of Public Affairs, December 11, 2004.

"Strategies for Teaching Intermediate and Public Sector Economics," South-Western Inaugural On-Line National Lecture Series, October 6, 2004.

"Economic Benefits of Climate Forecasts for Energy and Water Management: Importance of Stakeholder Involvement," California Department of Natural Resources and California Energy Commission, Sacramento, CA, August, 2004.

"Integrating Climate and Weather Uncertainty into Water and Energy Resources Management," presentations to the California Energy Commission, June and July, 2004.

"Using Climate Forecasts for Drought Management," University of California, San Diego, March, 2004.

"Developing Drought Triggers for a State Drought Plan," University of Arizona, November, 2003.

"Balancing Teaching and Research," Georgia Tech New Faculty Orientation, September, 2002.

"Drought Analysis for the ACT-ACF Basins in Georgia, Florida, and Alabama," Approximately 12 presentations to the Governors, officials, and stakeholders from the States of Georgia, Florida, and Alabama, 2000-2002.

"Water and Drought Management for the State of Georgia," Approximately 24 presentations to water officials and stakeholders from the State of Georgia, 2000-2002.

"Economics of Environmental Quality," Atlanta Chamber of Commerce, November 2002.

"Indoor Air Quality and Human Health," U.S. Green Building Council Symposium, January, 2002.

"Teaching Engineering through Problem-Based Learning," Problem-Based Learning Projects for Atlanta K-12 schools, July, 2001.

"Drought Plans for Mitigating Drought Hazards: Are They Effective?" National Drought Policy Commission, Congressional Hearing, February, 2000.

"Drought Plans and Hazard Reduction," M.I.T., Dept. of Civil and Environmental Engineering, September, 1999.

"Developing Sustainability Indicators," Governor's Commission on Sustainability, Atlanta, Georgia, May, 1999.

"Developing a Drought Management Plan for the ACT-ACF Basins" Tri-State Water Allocation Commission Meeting, Atlanta, Georgia, Tallahassee, Florida, and Montgomery, Alabama, September and October, 1999.

"Strategies for Teaching Large Classes," CETL Teaching Fellows Conference, Georgia Institute of Technology, September, 1999.

"Balancing Teaching and Research," New Faculty Orientation, Georgia Institute of Technology, August, 1999.

"Water Resources Planning and Management in Atlanta," Environmental Issues Seminar, School of Public Policy, Georgia Institute of Technology, May, 1999.

"Water Resources and Sustainability," International Architectural Educational Exchange, Atlanta, April, 1999.

"Innovations in Education and Teaching Evaluation," Center for Enhancement of Teaching and Learning, April, 1999.

"Environmental Impact Assessment: The Need for Human Health Impact Assessment" Rollins School of Public Health, Emory University, January, 1999.

"Drought Plans and Planning," College of Architecture, Georgia Institute of Technology, January, 1999.

"Strategic Environmental Assessment: A Link Between Science and Policy," Earth and Atmospheric Sciences Seminar Series, Atlanta, October, 1998.

"Sustainable Development and Hazard Reduction," National Science Foundation, MAE Center conference, Atlanta, June, 1998.

"Ecosystem Valuation: A Dynamic, Place-Based Approach to Sustainability," Conference on Science and Technology for a Sustainable Society, Atlanta, May, 1998.

"Balancing Teaching and Research," Georgia Tech New Faculty Orientation, September, 1998.

"Barriers to Brownfield Redevelopment," EPA Brownfields Conference, Atlanta, GA, March, 1998.

"Sustainability, EIA, and Planning," Ph.D. Colloquium, Atlanta, GA, January, 1998.

"Adaptive Environmental Management," Public Policy Seminar, Georgia Institute of Technology, December, 1997.

"Doctoral Research: Funding and Publishing," Ph.D. Architecture Seminar, Georgia Institute of Technology, October, 1997.

"A Multi-Criteria, Iterative, Dynamic Method for Ecosystem Valuation," Public Policy Seminar, Georgia Institute of Technology, October, 1997.

"Balancing Teaching and Research," New Faculty Orientation, Georgia Institute of Technology, September, 1997.

"Strategic Environmental Assessment for Sustainable Development," Public Policy Seminar, Georgia Institute of Technology, January, 1997.

"Sustainable Cities and Environmental Remediation," Architecture Design Studio, Georgia Institute of Technology, February, 1996.

"Doctoral Studies and the Academic Job Search Process," Ph.D. Architecture Seminar, Georgia Institute of Technology, September, 1995.

"Environmental Impact Assessment," Army Environmental Policy Institute, Georgia Institute of Technology, December, 1995.

### **Presentations Given at Conferences**

"Climate forecasts for drought management," NOAA Climate Prediction Applications Science Workshop (Seattle), March 21, 2007.

"Improving water resources management in the western United States through use of remote sensing data and seasonal climate forecasts," Rosenberg, E., Wood, A., Tang, Q., Steinemann, A., Imam, B., Sorooshian, S., and Lettenmaier, D. 5th Annual Climate Prediction Applications Science Workshop, poster, Seattle, WA, March 20-23, 2007.

"Applications of Medium Range To Seasonal/Interannual Climate Forecasts For Water Resources Management In the Yakima River Basin of Washington State," Shukla, S., D. Alexander, A. Steinemann and A.W. Wood, 5th Annual Climate Prediction Applications Science Workshop, poster, Seattle, WA, March 20-23, 2007.

"Assessing and Mitigating Drought in Washington State," Fontaine, M. and Steinemann, A. NOAA Climate Prediction Applications Science Workshop (Seattle), 5th Annual Climate Prediction Applications Science Workshop, poster, Seattle, WA, March 20-23, 2007.

"Applications of Medium Range To Seasonal/Interannual Climate Forecasts For Water Resources Management In the Yakima River Basin of Washington State," Shukla, S., D.

Alexander, A. Steinemann and A.W. Wood, Water Center Annual Review of Research (Seattle), February 14, 2007.

“Asthma and Chemical Hypersensitivity: Prevalence and Potential Overlap,” Centers for Disease Control National Environmental Public Health Conference, December 4–6, 2006, Atlanta, Georgia.

“Applications of Medium Range To Seasonal/Interannual Climate Forecasts For Water Resources Management In the Yakima River Basin of Washington State,” Wood, A., A. Steinemann, D. Alexander and S. Shukla, Fall American Geophysical Union Meeting (San Francisco), Dec 2006.

“Assessing and Mitigating Drought in Washington State,” Fontaine, M. and Steinemann, A. UW/UBC Hydrology Conference, September 2006.

"The Environmental Health Regulatory Process' Need for Quality Data," Association for Politics and Life Sciences, Twenty-Fifth Annual Meeting, Washington, D.C., August 31 - September 4.

"Environmental Influences on Asthma," Environmental Protection Agency Headquarters, Research Triangle Park, October 21, 2004.

"Incorporating Weather and Climate Forecasts into Energy Production and Management: Economic Benefits, Impact Assessments and Power Industry Applications," International Association of Impact Assessment, Vancouver, Canada, April 2004.

"Planning to Promote Public Health and Environmental Quality," Third Joint Congress of the Association of Collegiate Schools of Planning and the Association of European Schools of Planning in Leuven, Belgium, July, 2003.

"Improving the National Environmental Policy Act through Strategic Environmental Assessments," Army Environmental Policy Institute, Atlanta, GA, July, 2002.

"Prevalence of MCS in the Southeastern US," CIIN National Conference, Santa Fe, NM, August 2001.

"An Examination of the Problems in Environmental Policymaking," Southern Political Science Association meeting, Atlanta, GA, November, 2000.

"Community Health Planning: Creating Livable Neighborhoods," American Collegiate Schools of Planning Conference, Atlanta, GA, November, 2000.

"Environmental Pollutants and Human Health," American Collegiate Schools of Planning Conference, Atlanta, GA, November, 2000.

"Doctoral Research: A Primer for Survival and Success," American Collegiate Schools of Planning Conference, Atlanta, GA, November, 2000.

"Integrating Values into Environmental Decision Making," Environmental Protection Agency, Conference on Environmental Decision Making, Washington, D.C., April, 2000.

"Integration of Stakeholder Values and Scientific Models in Management Strategies," National Conference on Environmental Decision-Making, Knoxville, TN, April, 1999.

"Designing Management Strategies that Integrate Stakeholder Beliefs and Scientific Models: A Case Study of Lake Lanier," Georgia Water Resources Conference, Athens, GA, March, 1999.  
Received Best Paper Award.

"Integrating Community Values into Scientific Models," Georgia Water Resources Conference, Athens, GA, March, 1999.

"Drought Planning: How Effective Are Plans?" American Collegiate Schools of Planning Conference, Pasadena, CA, November, 1998.

"Doctoral Research Strategies," Session on Planning Pedagogy, American Collegiate Schools of Planning Conference, Pasadena, CA, November, 1998.

"Water and Watersheds; Plans and Planning," Session Coordinator and Presenter, American Collegiate Schools of Planning Conference, Pasadena, CA, November, 1998.

"Strategic Environmental Assessment for Sustainable Cities" Association of Collegiate Schools of Planning Conference, Fort Lauderdale, Florida, November, 1997.

"In Search of Environmental Values," European Commission Symposium on Environmental Valuation. Natural Capital: Institutional, Regional, and Sectoral Dimensions, Domaine des Vaux de Cernay, France, October, 1997.

"Selecting the Decision Threshold in Drought Management Models," 7th International Conference on Hydraulic Engineering, Keelung, Taiwan, July, 1994.

"An Expert Critiquing System for the San Francisco Water Department," International Conference on Computer Applications in Water Resources, Tamkang University, Tamsui, Taiwan, July, 1991.

"An Expert Critiquing System to Assist in Operating a Water Supply Network," ASCE 18th National Conference on Water Resources Planning and Management, New Orleans, Louisiana, May, 1991.

"Expert Systems for Risk Assessment," Environmental Protection Agency Conference on Expert Systems for Environmental Engineering, Cincinnati, Ohio, May, 1988.

### **Professional Society Memberships:**

American Society of Civil Engineers, 1982-present

American Water Resources Association, 1995-present

International Society for Environmental and Occupational Health, 1998-present

International Association of Impact Assessment, 1995-present

American Institute of Certified Planners, 1998-present

**Journal Referee**

Journal title (and approximate number of articles refereed) in past five years:

ASCE Journal of Water Resources Planning and Management (15)

Environmental Impact Assessment Review (36)

Journal of Environmental Planning and Management (21)

Journal of the American Water Resources Association (8)

ASCE Journal of Professional Issues in Engineering Education and Practice (3)

International Planning Studies (1)

Environmental Health Perspectives (1)

Journal of the American Planning Association (5)

Centers for Disease Control: Journal of Emerging Infectious Diseases (2)

International Journal of Impact Assessment (7)

Book Reviewer:

National Academy Press

MIT Press

John Wiley & Sons

Thomson Learning

Island Press

Springer-Verlag

University of Washington Press

Sponsored Research Reviewer:

Agency (and number of proposals reviewed in past five years)

National Science Foundation (27)

Environmental Protection Agency (7)

National Oceanic and Atmospheric Administration (7)

## Graduate Students

### **Chaired Doctoral Degrees** (Name, School, Thesis Topic, Date of Completion)

Gro Øjford, Civil and Environmental Engineering (Water Management in Developing Countries)  
Eric Rosenberg, Civil and Environmental Engineering (Water Management in Western U.S)  
Julie Vano, Civil and Environmental Engineering (Science for Decision-Making and Policy)  
Patrick Keys, Civil and Environmental Engineering (Climate Impacts and Adaptation)  
Caitlin Waddick, City Planning, GaTech (Environmental Health and Planning), 2007 (expected)

### **Chaired Masters Degrees** (Name, School, Thesis/Research Paper Topic, Date of Completion)

Matthew Fontaine, Civil and Environmental Engineering (Drought Impact Assessment), 2007  
Bernadette Visitacion, Civil and Environmental Engineering (Stormwater Management), 2006  
Luiz Cavalcanti, City Planning, GaTech (State Drought Indicators Evaluation), 2004  
Stacey Jordan, City Planning, GaTech (Residential Construction and Healthy Homes), 2004  
Mackenzie Wood, Public Policy, GaTech (Integrated Pest Management for Mosquito Control), 2003  
Michael Waschak, Public Policy, GaTech (EIA Procedures for the Army Corps of Engineers), 2003  
John Moguee, Civil and Env. Engineering, GaTech (Life-Cycle Cost Analysis for the U.S. Army), 2002  
Rebekah Morrison, City Planning, GaTech (Roundabouts: Transportation and Urban Design), 2001  
Janeane Gilbreath, City Planning, GaTech (Sustainability Strategies for the Electricity Industry), 2000  
Alison Nichols, City Planning, GaTech (Public Participation in EPA's Project XL), 2000  
Denise Ransom, City Planning, GaTech (Designing Smart Growth Master Plans), 2000  
Elizabeth Keysar, Public Policy, GaTech (Analysis of the Use of Mitigated FONSI's), 2000  
Jeff Bourne, Public Policy, GaTech (Wetlands Mitigation Banking), 2000  
Brian Wopershall, Civil and Env. Engineering, GaTech (Stormwater and Soil Loss Modeling), 1999  
Cheech Villadóniga, City Planning, GaTech (Ecotourism in Costa Rica), 1999  
Caitlin Waddick, City Planning, GaTech (Implementation of Metropolitan Gov. Organizations), 1999  
Meredith Gibson, Public Policy, GaTech (Water Supply Analysis for the Atlanta Region), 1999  
Brian Murphy, City Planning, GaTech (Drought Water Management in Atlanta), 1998  
Goro Mitchell, City Planning, GaTech (Sustainable Development for Inner Cities), 1998  
Mike Weil, City Planning, GaTech (EIA for Transportation Plans), 1998  
Paul Rose, City Planning, GaTech (Development of Nonpoint Source Pollution Plans), 1998  
Denise DiSantis Public Policy, GaTech (Environmental Legislation for Chattahoochee River), 1998  
Kelly Cooney, City Planning, GaTech (Sustainability in Chattanooga), Master's Thesis, 1997  
Susan Simm, City Planning, GaTech (Strategic Environmental Assessment and MIS), 1997  
Wayne Hausser, City Planning, GaTech (Water Quality and Impervious Surface Management), 1997

Mark Rinaman, City Planning, GaTech (ISO 14000 Environmental Management Systems), 1997  
Bryna Cosgriff, City Planning, GaTech (Industrial Ecology, and Case Studies from Denmark), 1997  
Melanie Fitzpatrick, City Planning, GaTech (Land Use Law and Exclusionary Zoning), 1997  
Heather Dyke, City Planning, GaTech (Sustainable Water Resources Management), 1996

**Membership on Ph.D. Committees** (Name, School, Thesis Topic, Date of Completion)

Jae Ryu, Civil and Environmental Engineering, UW (Drought Management in Korea), 2005  
John Mogee, Civil Engineering, GaTech (Engineering Sustainability for Military Bases), 2004  
Anne Dunning, Civil Engineering, GaTech (Impacts of Transit in National Parks), 2004  
Sharon Mills, Public Policy, GaTech (Environmental Justice and Transportation Planning), 2004  
José Loría Arcila, Civil Engineering, GaTech (Low-Income Housing for Mexico), 2002  
Elizabeth Corley, Public Policy, GaTech (Environmental Valuation and Mental Models), 2002  
Justin Wiedeman, Civil Engineering, GaTech (Decision Support for Wastewater Management), 1999  
Timmerly Richman, Environmental Engineering, GaTech (Water Supply Treatment Methods), 1999

**Membership on M.S. Committees** (Name, School, Thesis Topic, Date of Completion)

Erin Clancy, Civil and Environmental Engineering (Reservoir Operations Optimization), 2005

## Research Activities

### Sponsored Research (proposals submitted and pending)

Sponsor: National Science Foundation  
Title: Global Flood and Drought Forecasting: Reducing Impacts of Water-Related Disasters through Integrated Climate, Weather, and Hydrologic Modeling and Prediction  
Amount: \$2,500,000  
Position: Principal Investigator  
Dates: September 1, 2007 - August 31, 2012  
Purpose: To develop a develop and implement a real-time global flood/drought forecast system, and test it over three major river basins—in South America, South Africa, and Eastern Europe. This work will unite expertise from four continents, resulting in the first global prediction system, with forecasts ranging from 5- to 15-day lead times for floods, and up to six months for droughts.

*\*\* This NSF proposal was successful in the first two rounds of review, and is now in the third and final round of review. This was the only proposal from UW to make it to the third round.*

### Sponsored Research (funded)

Sponsor: U.S. Geological Survey  
Title: West-Wide Drought Forecasting System: A Scientific Foundation for NIDIS  
Amount: \$250,000  
Position: Principal Investigator  
Dates: September 1, 2006 - August 31, 2009  
Purpose: To develop a drought forecast and nowcast system for agricultural, meteorologic, and hydrologic drought in the Western U.S. This work will provide the early warning capabilities and science-based indicators for the National Integrated Drought Information System (NIDIS), in collaboration with the Western Governors' Association, the National Drought Mitigation Center, NOAA, USGS, and other agencies.

*\*\* This USGS proposal was ranked the highest among all proposals received in this competition.*

Sponsor: National Oceanic and Atmospheric Administration (NOAA)  
Title: Using NOAA Climate Forecasts with Hydrologic Assessment to Reduce Drought Vulnerability and Improve Water Management in Washington State  
Amount: \$293,283  
Position: Principal Investigator  
Dates: April 2006-March 2008  
Purpose: To develop and implement climate and hydrologic forecasts for water management in the Yakima River Basin, to assess the net economic benefits of this forecast information, and to serve as a model implementation of the National Integrated Drought Information System (NIDIS).

*\*\* This NOAA proposal was ranked the highest among all proposals received in this competition.*

Sponsor: State of Washington, Center for Trade and Economic Development  
Title: Climate Impacts, Vulnerability, and Adaptations: Infrastructure Systems in Washington State  
Amount: \$110,000  
Position: Principal Investigator  
Dates: July 16, 2007 - June 30, 2009  
Purpose: To assess the projected impacts of climate change on infrastructure systems in Washington state, identify the most vulnerable regions and sectors, and provide guidance on adaptations to reduce climate change vulnerability.

Sponsor: State of Washington, Center for Trade and Economic Development  
Title: Drought Impact Assessment and Mitigation  
Amount: \$100,000  
Position: Principal Investigator  
Dates: September 1, 2005 - August 31, 2006  
Purpose: To assess the impacts from recent droughts, identify the most vulnerable areas and sectors, develop indicators to monitor and forecast drought conditions, and determine ways to reduce drought impacts in the future.

Sponsor: State of Washington, Department of Ecology  
Title: State Drought Plan  
Amount: \$80,000  
Position: Principal Investigator  
Dates: September 1, 2006 - August 31, 2007  
Purpose: To evaluate and improve the State of Washington Drought Plan, including indicators and triggers, climate change adaptation, implementation strategies, and resource allocation to mitigate impacts most effectively.

Sponsor: National Aeronautics and Space Administration (NASA)  
Title: "Improving water resources management in the western U.S. through use of remote sensing data and seasonal climate forecasts  
Amount: \$1,200,000  
Position: Co-Principal Investigator (with Dennis P. Lettenmaier)  
Dates: 2006-2009  
Purpose: To develop hydrologic and climate prediction models for use by three operational water management agencies: the Natural Resources Conservation Service, the U.S. Bureau of Reclamation, and the California Department of Water Resources.

Sponsor: National Oceanic and Atmospheric Administration (NOAA)  
Title: "Climate Forecasts for Improving Management of Energy and Hydropower Resources in the Western U.S."  
Amount: \$200,000  
Position: Co-Principal Investigator (with Timothy P. Barnett)  
Dates: August 2005-August 2007  
Purpose: Predict variations in water and energy supplies and demands across Western U.S. on seasonal time scales in order to improve joint management of resources.

Sponsor: Seattle Public Utilities  
Title: "Analysis of Endocrine Disrupting Chemicals from Consumer Products in Stormwater and Wastewater in an Urban, Residential Seattle Watershed"  
Amount: \$120,000  
Position: Principal Investigator  
Dates: January 2006 - June 2006  
Purpose: To analyze the presence and sources of endocrine disrupting chemicals (EDCs) in surface waters and wastewaters of a residential watershed in Seattle.

Sponsor: Puget Sound Action Team  
Title: "The Environmental, Economic, and Societal Costs of Stormwater Runoff in the Puget Sound Region"  
Amount: \$36,000  
Position: Principal Investigator  
Dates: January 2006 - August 2006  
Purpose: To identify, analyze, and quantify the environmental, societal, and economic costs of stormwater runoff within the Puget Sound region, and the benefits of stormwater management.

Sponsor: Puget Sound Regional County Agencies  
Title: "Water and Watersheds Research Consortium"  
Amount: \$150,000  
Position: Principal Investigator  
Dates: January 2005-December 2007  
Purpose: To address water issues in the region, such as low-impact development, drought, stormwater management, instream flows, and sustainability.

Sponsor: National Oceanic and Atmospheric Administration (NOAA)  
Title: "The Economic Benefit of Incorporating Weather and Climate Forecasts into Western Energy Production"  
Amount: \$1,938,100  
Position: Co-Principal Investigator (with Timothy P. Barnett)  
Dates: April 2003-August 2004  
Purpose: Develop weather and climate forecasts for energy and water management in California. Work with agencies and utilities to integrate forecasts into operations, and to estimate the economic value of improved forecast information.

Sponsor: National Science Foundation, Civil and Mechanical Systems  
Geotechnical and GeoHazards Systems Program  
Title: "Interstate Drought Hazard Mitigation"  
Position: Principal Investigator  
Amount: \$100,000  
Dates: April 2004-March 2006  
Purpose: Determine drought indicators for the ACT-ACF basin, and develop an interstate drought management plan for the States of Florida, Georgia, and Alabama.

Sponsor: National Science Foundation, CAREER Award

Title: Civil and Mechanical Systems, Hazard Reduction Program  
"Reducing Drought Hazards by Improving Drought Plans"  
Position: Principal Investigator  
Amount: \$410,000  
Dates: April 1, 1999-September 30, 2006  
Purpose: Develop methods to analyze and mitigate risks of drought hazards.

Sponsor: Federal Highway Administration  
Title: "Consideration of Environmental Factors in Transportation Systems Planning"  
Position: Co-Principal Investigator (with Adjo Amekudzi)  
Amount: \$250,000  
Dates: April 2001-July 2002  
Purpose: Develop methods for transportation agencies to address environmental requirements in strategic decisions and regional transportation plans.

Sponsor: Georgia Department of Natural Resources  
Title: "Drought Planning for the State of Georgia"  
Position: Principal Investigator  
Amount: \$50,000  
Dates: September 1999-September 2002  
Purpose: Direct the drought planning process for Georgia, working with more than 100 stakeholders throughout state. Develop and implement first state drought plan.

Sponsor: National Science Foundation-Environmental Protection Agency - Water and Watersheds Program  
Title: "Community Values and the Long-Term Ecological Integrity of Rapidly Urbanizing Watersheds"  
Position: Co-Principal Investigator (with Bruce Beck)  
Amount: \$850,000  
Dates: January 1998-July 2001  
Purpose: Develop watershed management methods for Lake Lanier, GA, integrating stakeholder objectives with scientific models.

Sponsor: National Science Foundation  
Decision-Making and Valuation for Environmental Policy  
Title: "A Multi-Criteria, Dynamic, and Place-Based Approach to Ecosystem Valuation"  
Position: Co-Principal Investigator (with Bryan Norton)  
Amount: \$94,997  
Dates: August 1997-August 1998  
Purpose: Design community-based methods for environmental valuation, assessing the intergenerational costs and benefits of development decisions.

Sponsor: National Science Foundation  
Civil and Mechanical Systems, Hazard Reduction Program  
Title: "Evaluating the Effectiveness of Drought Response Strategies: A Knowledge-Based Approach"

Position: Principal Investigator  
Amount: \$18,000  
Dates: June 1997-December 1998  
Purpose: Design and implement knowledge-based system to improve drought planning processes and drought contingency plans.

Sponsor: Georgia Research Alliance  
Title: "Center for Urban and Regional Ecology"  
Position: Co-Principal Investigator (with Ron Pulliam)  
Amount: \$300,000  
Dates: June 1998-June 1999  
Purpose: Investigate the interactions between human activities, ecological changes, and tools for managing the built and natural environment.

Sponsor: Georgia Research Alliance  
Title: "Environmentally Conscious Design and Construction of Infrastructure Projects"  
Position: Co-Principal Investigator (with Jorge Vanegas)  
Amount: \$229,000  
Dates: June 1996-September 1996  
Purpose: Develop methods for sustainability in the planning, design, construction, and operation of urban infrastructure systems.

### **Un-sponsored Research**

Title: "Exposure Analysis, Human Health, and Environmental Regulations"  
Position: Principal Investigator  
Purpose: Analyzing human exposure to environmental pollutants. Evaluating legislative framework for addressing exposures. Published textbook on Human Exposure Analysis.  
Collaborators: Environmental Protection Agency, International Society for Exposure Analysis and Environmental Epidemiology, Stanford University, UW School of Law  
Dates: April 2002-present

Title: "Epidemiological Studies of Multiple Chemical Sensitivity and Asthma"  
Position: Principal Investigator  
Purpose: Conducted the first national studies of MCS, asthma, and their overlaps.  
Collaborators: West Georgia College; Columbia University School of Public Health  
Dates: January 2001-present

Title: "Climate Change, Climate Variability, and Natural Hazards"  
Position: Principal Investigator  
Purpose: Developing indices to measure the frequency, severity, and duration of natural hazards (specifically droughts and hurricanes) and their relationships to ENSO events  
Collaborators: Florida Institute of Technology  
Dates: January 2002-present

Title: "National Study of Drought Management"  
Position: Principal Investigator  
Purpose: Conducting national study of statewide drought plan effectiveness.  
Collaborators: National Drought Policy Commission, National Drought Mitigation Center  
U.S. Department of Agriculture, Western Governors' Association/NIDIS  
Dates: January 2002-present

## **Documentation of Teaching Effectiveness**

### **All courses taught**

Courses Taught at the University of Washington:

- Sustainability: Principles and Practice
- The Water Center Seminar

Courses Taught at Georgia Tech:

- Water Resources Planning
- Environmental Impact Assessment
- Sustainable Development
- Microeconomics for Planning Policy
- Economic Analysis in Planning

Courses Taught or Assisted at Stanford University:

- Environmental Planning and Decision-Making
- Environmental Regulation and Impact Assessment
- Expert Systems for Civil Engineers
- Statistical Methods for Engineers

## Student teaching evaluations

Year	Course Title	Number of Students Enrolled (Responded)	Course Evaluations (out of 5.0)	
			Overall	Instructor
S 2006-7	Sustainability: Principles and Practice CEE 599/PB AF 595A (3 units)	8(7)	4.2	4.5
S 2006-7	Water Center Seminar	75	4.9	4.8
W 2006-7	Water Center Seminar	77	*	*
F 2006-7	Water Center Seminar CEE498Q/599K; PB AF 599E FISH 529A; ESRM/CFR 429A/529A (3 units/AY) (*not evaluated this quarter)	41	4.0	4.0
S 2005-6	Water Center Seminar	41	4.7	4.7
W 2005-6	Water Center Seminar	29	3.8	4.1
F 2005-6	Water Center Seminar FISH 529A; ESRM/CFR 429A/529A (3 units/AY)	39	4.6	4.4
S 2004-5	Water Center Seminar	29	4.4	5.0
W 2004-5	Water Center Seminar	26	*	*
F 2004-5	Water Center Seminar FISH 529A; ESRM/CFR 429A/529A (3 units/AY)	17	*	*
W 2002	Sustainable Development CP 6233, 3 units (*not evaluated in this course survey)	28 (27)	*	4.5
F 2000	Economic Analysis in Planning CP 6031, 3 units	36 (36)	4.2	4.7
W 2000	Water Resources Planning CP 6241 3 units	15 (9)	4.1	4.3
S 1999	Environmental Impact Assessment CP 6121, 3 units	23 (22)	4.7	4.9
S 1999	Sustainable Development CP 8110D, 3 units	12 (11)	4.7	4.8
W 1999	Microeconomics for Policy Planning CP 6211, 3 units	47 (40)	4.2	4.6
F 1998	Water Resources Planning CP 8110C, 3 units	17 (15)	4.8	4.8

S 1998	Environmental Impact Assessment CP 6121, 3 units	24 (14)	4.8	4.9
S 1998	Sustainable Development CP 8110D, 3 units	12 (11)	4.7	4.8
W 1998	Microeconomics for Policy Planning CP 6211, 3 units	35 (32)	4.0	4.6
F 1997	Water Resources Planning CP 8110C, 3 units	15 (12)	4.6	4.8
S 1997	Environmental Impact Assessment CP 6121, 3 units (*not evaluated in this course survey)	30 (25)	*	4.8
S 1997	Sustainable Development CP 8110D, 3 units	16 (15)	4.4	4.8
W 1997	Microeconomics for Policy Planning CP 6211, 3 units	38 (35)	4.5	4.9
F 1996	Water Resources Planning CP 8110C, 3 units	25 (24)	4.4	4.6
S 1996	Environmental Impact Assessment CP 6121, 3 units	23 (18)	4.7	4.9
W 1996	Microeconomics for Policy Planning CP 6211, 3 units	40 (31)	4.8	4.9

## Other teaching experience

### Interdisciplinary and Innovative Teaching Activities:

- NSF ADVANCE. Presented seminars on strategies for balancing teaching, research, and service, for successful CAREER proposals and research-education plans, and for high school students and undergraduates in science and engineering.
- Mentor. Through the Center for Workforce Development, NSF ADVANCE, and additional programs, currently serving as mentor to 24 individuals (high school students, undergraduates, graduate students, post-doctoral students, staff researchers, and junior faculty members).
- Developing concurrent degree program between Civil and Environmental Engineering and the Evans School of Public Affairs at the University of Washington.
- River Restoration Program. Developed, with Profs. Derek Booth and David Montgomery, a new graduate program on river restoration at UW.
- “Sustainability: Principles and Practice” Developed new project-based course at UW for students to develop campus sustainability projects, working together with UW’s Environmental Stewardship Advisory Committee, faculty, staff, students, and other stakeholders.
- Developed and directed two Dual Masters Degree Programs at Georgia Tech:  
Civil Engineering and City Planning (Water Resources)  
Environmental Engineering and City Planning (Environmental Management)
- Authored the Peer Evaluation of Teaching guidelines for Georgia Tech.
- Georgia Tech's Campus Master Plan and Sustainable Urban Development course  
Developed new course for students to design and implement campus sustainability projects. As a result of this course, "sustainability" became the central principle for the Campus Master Plan.
- Professional Skills Workshops. Organized professional communication workshops for City Planning graduate students, in conjunction with Career Services at Georgia Tech.
- Problem-Based Learning Coordinator, EduTech. Developed educational outreach activities and worked with K-12 teachers in Atlanta to develop planning and design-based class exercises.
- Teaching Fellows Program, Center for the Enhancement of Teaching and Learning.  
As both a teaching fellow and an invited speaker, participated in weekly seminars on methods to improve teaching, and on innovations for teaching and evaluation.
- Invited Presenter, Georgia Tech's New Faculty Orientation  
Led annual sessions on balancing research, teaching, and service.

## **Service**

### **Departmental Service:**

Director, The Water Center, University of Washington, 2004-

Involves extensive interactions and collaborations, with both internal and external constituents. From May 2006-May 2007, I met with more than 500 external constituents, which has helped to elevate significantly the visibility and prominence of CEE and UW in the region.

Faculty Adviser, UW Student Chapter of the American Water Resources Association, 2004-

Won “Outstanding Chapter of the Year” (highest national award) in 2006

Faculty Adviser, UW Student Chapter of Engineers Without Borders, 2004-2007

Faculty Mentor, Hubert H. Humphrey Fellows Program, 2006-

Chair, Committee to the College of the Environment, 2007-

Evans Lecture Committee, 2004-

Director, Dual Master's Degree Program in Water Resources Planning - M.S. Civil and Environmental Engineering / M.S. City and Regional Planning, Georgia Tech, 1996-2004

Director, Dual Master's Degree Program in Environmental Management - M.S. Civil and Environmental Engineering / M.S. City and Regional Planning, Georgia Tech, 1996-2004

Chair, Peer Evaluation of Teaching Committee, Georgia Tech, 2002-2003

### **College Service:**

Search Committee, Civil and Environmental Engineering Chair, 2007

Review Committee, Chemical Engineering Chair, 2005

Faculty Mentoring Program, Center for Workforce Development, 2004-

Chair, College Awards and Scholarships Committee, Georgia Tech, 1995-2000

College Sustainability Work Group, Georgia Tech, 1998-2000

Chair, United Way Charitable Campaign, Georgia Tech, 1996-1998

### **University Service:**

Review Committee, Dean of College of Ocean and Fishery Sciences, 2006-7

Review Committee, Program on Climate Change, 2005

Steering Committee, Disability Studies Program, 2007-

Steering Committee, PRISM, 2005

ADVANCE seminar speaker, 2004-2005

Institute Executive Board Member (Elected position; Highest level of faculty governance), Georgia Tech, 1996-1998

Institute Student Honors Committee, Georgia Tech, 2000-2003

Institute Committee for Course and Professor Evaluation, Georgia Tech, 2002-2004

Institute Committee for Peer Evaluation of Teaching, Georgia Tech, 2002-2004

Institute Communications Task Force, Georgia Tech, 1997-2004

Annual New Faculty Orientation, Georgia Tech, 1996-2000

Academic Senate, Georgia Tech, 1996-1998

Faculty Senate, Georgia Tech, 1996-1998

### **Professional Society Service**

#### Journal Editorships:

*Environmental Impact Assessment Review*, Editorial Board, 2001-present

### **Recent Community Service**

#### Volunteer Organization Service

St. Vincent de Paul; Homeless Shelter  
Juvenile Hall Tutoring Program  
King County Jail Outreach Ministry  
Children's Hospital  
Crisis Hotline Counselor

#### National or Governmental Service:

Appointed to Seattle Mayor's Green Ribbon Commission, 2005.  
National Science Foundation CAREER panel, Civil and Mechanical Systems, 2002.  
Appointed as Special Adviser on Water Resources to Governor of Georgia, 2000.  
Appointed to President's National Drought Policy Commission workgroups, 2000.  
Appointed to Water Allocation Study for the States of Florida, Georgia, and Alabama, 2000.

National Science Foundation CAREER Award Educational Activities (1998-2003)

Directed Atlanta area K-12 teachers in programs to implement and evaluate problem-based and service-learning components in their curricula. Led workshops for other faculty at Georgia Tech on integrating service-learning into their courses. Developed new courses (Sustainable Urban Development; Water Resources Planning) for students to work with agencies, industries, and organizations to address community problems. Conducted outreach programs for minority students in City of Atlanta K-12 schools.

## **Additional Service to the University and Public**

### Recent Outreach and Public Service Activities, 2007

Served as Advisor (providing reports and making presentations) to government agencies and organizations, in addition to those mentioned previously under “Research Activities”:

National	Western Governors’ Association
	U.S. Environmental Protection Agency
	U.S. Geological Survey
	U.S. Army Corps of Engineers
	U.S. Fish and Wildlife Service
	U.S. National Institutes of Health
	U.S. Green Building Council
	U.S. Department of Energy
	U.S. Department of Agriculture
State	Washington Department of Ecology
	Washington Governor's Policy Office
	California Energy Commission
	California Department of Water and Power
	California Independent System Operator
	Georgia Environmental Protection Division
	Georgia Pollution Prevention Division
	Florida Department of Environmental Protection
Local	Seattle City Council
	Seattle Mayor's Office
	King County Water and Land Resources
	City of Olympia Public Works
	Pierce County Water Programs
	Snohomish County Public Works
	Spokane County Public Works
	Seattle Public Utilities
	City of Everett
	City of Kent
	City of Bellevue

**Additional Service to the University and Public  
Interdisciplinary Partnerships Created at UW**

Includes collaborative research, public outreach, and student advising

College of Forest Resources

Bioengineering

Electrical Engineering

Computer Science and Engineering

College of Ocean and Fishery Sciences

School of Public Affairs

UW Earth Initiative

ADVANCE Program

Climate Impacts Group

College of Architecture and Urban Planning

College of Arts and Sciences

Center for Science in the Earth System

Policy Consensus Center

Program on Climate Change

Program on the Environment

CELT/CAEE

PRISM

Valle Program

School of Law

School of Public Health and Community Medicine

*Student organizations*

American Fisheries Society

Society for Ecological Restoration

American Society of Civil Engineers

American Water Resources Association (Faculty Adviser)

Engineers Without Borders (Faculty Adviser)

## **Additional Service to the University and Public Presentations to Constituents of The Water Center, 2007**

### Federal Agencies:

- US Forest Service
- Environmental Protection Agency
- US NOAA
- US Army Corps of Engineers
- US Fish and Wildlife Service
- National Park Service
- US Geological Survey
- US Army

### State Agencies:

- WA Department of Fish and Wildlife
- WA Department of Ecology
- WA Dept. of Natural Resources
- WA Department of Transportation
- WA Department of Agriculture
- Salmon Recovery Funding Board

### Counties:

- Clallam County
- Island County
- Jefferson County
- King County
- Kitsap County
- Lewis County
- Pierce County
- Skagit County
- Snohomish County
- Whatcom County

### Cities:

- Arlington
- Bainbridge
- Bellevue
- Bellingham
- Bonney Lake
- Everett
- Issaquah
- Kent
- Kirkland
- Olympia
- Port Townsend
- Portland, OR
- Redmond
- Seattle
- Shoreline
- Tacoma

### Tribes:

- Colville Confederated
- Muckleshoot
- Quinault

Skokomish

Stillaguamish

Tulalip

### Educational Institutions:

- Antioch University
- Oregon State University
- Washington State University

### Consulting, Business, and Industry:

- Battelle
- CH2M Hill
- Flow Monitoring and Consultants
- Global Research and Rescue
- Herrera, Inc.
- Hirsch Law Office
- Mithun
- Parametrix
- Perteet
- Puget Sound Energy
- RH2 Engineering
- RW Beck
- Springwood Associates
- Stillwater Sciences
- The Watershed Company
- Trout Habitat Specialists
- Water Tenders

### Nonprofits:

- Adopt-a-Stream
- Earth Corps
- Friends of Cedar River Watershed
- Global Visionaries
- Hood Canal Coordinating Council
- League of Women Voters
- Nature Conservancy
- North Olympic Salmon Coalition
- People for Puget Sound
- Stevens County Water Conservancy
- Stilly Snohomish Fisheries Enhancement
- Task Force
- Streamkeepers
- Sustainable Fisheries Foundation
- Thornton Creek Alliance
- Washington Forest Law Center
- Wild Fish Conservancy