

## **Jean M. Jacoby**

College of Science and Engineering  
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### **EDUCATION**

- Ph.D. Civil Engineering, Environmental Engineering & Science,  
University of Washington, Seattle
- M.S. Civil Engineering, Environmental Engineering & Science  
University of Washington, Seattle
- B.S. College of Natural Resources, Water Resources - Limnology,  
University of Wisconsin - Stevens Point

### **ACADEMIC EXPERIENCE**

*Associate Dean*, Seattle University, College of Science and Engineering (2007-present)

*Director of the Project Center*, Seattle University, College of Science and Engineering (2010-present)

*Professor and Chair*, Seattle University, Civil and Environmental Engineering Department (2002 to 2007)

*Associate Professor*, Seattle University, Civil and Environmental Engineering Department (1997-2001)

*Thomas J. Bannan Chair in Engineering*, Seattle University, Civil and Environmental Engineering Department (September 1996 to June 1998)

*Clare Boothe Luce Professor*, Seattle University, Civil and Environmental Engineering Department (September 1991 to 1996)

### **PROFESSIONAL EXPERIENCE**

*Senior Limnologist/Water Quality Specialist*, KCM, Inc., Seattle, WA (Sept. 1989 to June 1993)

*Water Quality Specialist*, Tetra Tech, Inc., Bellevue, WA (October 1987 to August 1989)

*Vice President*, Aqualimpia Associates, Port Townsend, WA (October 1985 to October 1987)

*Hydrologist Assistant*, U.S. Geological Survey, Tacoma, WA (May 1981 to January 1983)

### **RESEARCH INTERESTS**

Applied limnology, harmful and nuisance algae, cyanobacterial toxicity, eutrophication assessment and control, lake restoration, stream ecology

## **AWARDS AND RECOGNITION**

College of Science & Engineering Dean's Service and Leadership Award, 2012  
Puget Sound Engineering Council, Academic Engineer of the Year Award, 2004  
American Society for Engineering Education, Pacific Northwest Deans' Teaching Award, 2001  
Thomas J. Bannan Endowed Chair in Engineering, Seattle University, 1996-1998  
Clare Boothe Luce Chair, Seattle University, \$463,500, 1991-1996  
Student Club Advising Award for the Society of Women Engineers, 1998, Seattle University  
Herstory Award for contributions to women's programs, 1996, Seattle University  
Valle Scandinavian Scholarship Program research fellow, Uppsala, Sweden, 1983

## **GRANT AWARDS**

*What Counts as Success? Recognizing and Rewarding Women Faculty's Differential Contributions in a Comprehensive Liberal Arts University*", NSF ADVANCE Institutional Transformation (IT) award, Co-Principal Investigator, \$2.3 million grant to Seattle University, 2016-2021.

*Regional Examination of Harmful Algae Blooms*, Center for Disease Control (CDC) Harmful Algae Bloom-Related Illness Surveillance System \$750,000 grant to the WA State Department of Health (with WA Department of Ecology, King and Snohomish Counties, Tacoma-Pierce County Health Department), Technical Advisor, 2008-2013.

*Tracking Cyanobacterial Toxicity in Lake Sammamish, WA*, National Science Foundation Professional Opportunities for Women in Research and Education, Principal Investigator, \$74,977 grant to Seattle University, 1998-2001.

*Toxic Cyanobacteria: Education/Lake Protection Project*, Washington State Department of Health, Principal Investigator, \$72,477 to Seattle University, 1994-1996.

*Blue-green Algae Control with Alum*, Co-Principal Investigator, \$79,867 to University of Washington, U.S. Environmental Protection Agency, 1992-1995.

*Control of Nuisance Filamentous Algae in Streams by Invertebrate Grazing*, Co-Principal Investigator, \$193,691 to University of Washington, National Science Foundation, 1994-1997.

## **PROFESSIONAL AFFILIATIONS**

Meadowmeer Water Service Association, Vice President of the Board of Directors (2014-present)  
Lake & Reservoir Management journal, Associate Editor (1995-present)  
American Society for Engineering Education  
International Society of Theoretical and Applied Limnology  
North American Lake Management Society (Regional Director 1994-1997, 2006-2009)  
Society of Women Engineers (faculty advisor to SU student chapter, 1991-2005)  
Washington State Lake Protection Association (Secretary 1991-1993, Director 2006-08)  
Women in Engineering Programs and Advocates Network

## PUBLICATIONS

### Books

Welch, E.B. and J.M. Jacoby. 2004. *Pollutant Effects in Freshwaters: Applied Limnology*. 3<sup>rd</sup> edition. Spon Press, New York, London. 504 pp.

Welch, E.B., J.M. Jacoby and C. May. 1998. Chapter 4: *Stream Quality: Physiochemical and Biological Characteristics* in: Ecology and Management of Streams and Rivers in the Pacific Northwest Coastal Region, R. Naiman (ed.), Springer Verlag, Berlin.

### Refereed Technical Journal Articles (\*indicates student co-authors)

Jacoby, J., M. Burghdoff, G. Williams, L. Read and F.J. Hardy. 2015. Dominant factors associated with microcystins in nine mid-latitude, maritime lakes. *Inland Waters* 5:187-202.

Jacoby, J.M. and J. Kann. 2007. The occurrence and response to toxic cyanobacteria in the Pacific Northwest. *Lake & Reservoir Management* 23:123-143.

Johnston\*, B.R. and J.M. Jacoby. 2003. Cyanobacterial toxicity and migration in a mesotrophic lake in western Washington. *Hydrobiologia* 495:79-91.

Jacoby, J.M., I. Wertz\* and E.B. Welch. 2001. Alternate Stable States in a Shallow Lake Dominated by *Egeria densa*. *Verh. Internat. Verein. Limnol.* 27:3805-10.

Welch, E.B., E.L. Anderson\*, J.M. Jacoby, B.F. Biggs and J.M. Quinn. 2000. Invertebrate grazing of filamentous green algae in outside channels. *Verh. Internat. Verein. Limnol.* 27:2408-14.

Welch, E.B. and J.M. Jacoby. 2001. On determining the principle source of phosphorus causing summer algal blooms in western Washington lakes. *Lake & Reservoir Management* 17:55-65.

Jacoby, J.M., D. Collier\*, E.B. Welch, F.J. Hardy, and M. Crayton. 2000. Environmental factors associated with a toxic bloom of *Microcystis aeruginosa*. *Canadian Journal of Fisheries & Aquatic Sciences* 57:231-240.

Anderson\*, E., E. Welch, J. Jacoby, G. Schimek\*, and R. Horner. 1999. Periphyton removal related to phosphorus and grazer biomass level. *Freshwater Biology* 41:633-651.

Jacoby, J.M., E.B. Welch, and C.W. Anderson. 1997. Pine Lake response to diversion of wetland inflow. *Lake & Reservoir Management* 13(4):302-314.

Sonnichsen\*, J.D., J.M. Jacoby, and E.B. Welch. 1997. Response of cyanobacterial migration to alum treatment in Green Lake. *Archives fur Hydrobiologie* 140:373-392.

Perakis\*, S., E.B. Welch, and J.M. Jacoby. 1996. Sediment-water blue-green algal recruitment in response to alum and environmental factors. *Hydrobiologia* 318:165-177.

Jacoby, J.M., H.L. Gibbons, K. Stoops, and D. Bouchard. 1994. Response of a shallow, polymictic lake (Green Lake, Seattle, WA) to buffered alum treatment. *Lake & Reservoir Management* 10(2):103-112.

Jacoby, J., H. Gibbons, R. Hanowell, and D. Bouchard. 1994. Wintertime blue-green algal toxicity in a mesotrophic lake. *Journal of Freshwater Ecology* 9(3):241-251.

Jacoby, J.M., D.D. Bouchard, and C.R. Patmont. 1991. Periphyton response to nutrient enrichment in Lake Chelan, Washington. *Lake & Reservoir Management* 7(1):33-43.

Horner, R.R., E.B. Welch, M.R. Seeley\*, and J.M. Jacoby. 1990. Responses of periphyton to changes in current velocity, suspended sediment, and phosphorus concentration. *Freshwater Biology* 24:215-232.

Welch, E.B., J.M. Jacoby, R.R. Horner, and M.R. Seeley\*. 1988. Nuisance biomass levels of periphytic algae in streams. *Hydrobiologia* 157:161-168.

Jacoby, J.M. 1987. Alterations in periphyton characteristics due to grazing in a Cascade foothill stream. *Freshwater Biology* 18:494-508.

Jacoby, J.M. 1985. Grazing effects on periphyton by *Theodoxus fluviatilis* (Gastropoda) in a lowland stream. *Journal of Freshwater Ecology* 3:265-274.

Jacoby, J.M., E.B. Welch, D.L. Lynch, and M.A. Perkins. 1982. Internal phosphorus loading in a shallow, eutrophic lake. *Water Research* 16:911-919.

### **Refereed Conference Proceedings**

Jacoby, J.M., A.T. Moser, T. Bonifield, S. Botts, and P.D. Daniels. 1997. An undergraduate interdisciplinary environmental assessment project in partnership with the U.S. Public Health Service. Conference Proceedings for *Frontiers in Education*, November 6-9, 1996, Salt Lake City, Utah.

Stoops, K., H. Gibbons, and J. Jacoby. 1993. Restoration of a shallow, eutrophic lake: a case study of Green Lake in Seattle, WA. *American Water Resources Association (AWRA) Symposia on Water Resources Education*, June 27-30, 1993, Bellevue, WA. AWRA Technical Publication Series TPS-93-2, p. 551-558.

Jacoby, J.M., E.B. Welch, and J.P. Michaud. 1983. Control of internal phosphorus loading in a shallow lake by drawdown and alum. pp. 112-118. In: *Lake Restoration, Protection, and Management*, Proceedings of the Second Annual Conference, North American Lake Management Society, 26-29 October 1982, Vancouver, B.C. EPA 440/5-83-001. U.S. EPA, Washington, DC.

## **Magazine Articles**

Quinn, M. and J. Jacoby. 2016. STEM: Students and Teachers Embracing the Mission. *Connections: The Impact of STEM Programs on Jesuit Institutions*. Association of Jesuit Colleges and Universities. January 21, 2016.

Jacoby, J., L. Tuttle, and R. Hanowell. 2009. Toxic cyanobacteria in the Chambers-Clover Creek watershed, Washington. North American Lake Management Society *LakeLine* 29(2):39-43.

Graham, J., J. Jacoby, and A. St.Amand. 2009. The North American Lake Management Society Blue-green Algae Initiative. North American Lake Management Society *LakeLine* 29(2):12-15.

Jacoby, J. 2003. Toxic blooms of cyanobacteria: a new challenge for recreational lakes. *LakeLine* 23(2):23-26.

## **SELECTED NON-REFEREED CONFERENCE PRESENTATIONS**

*The environmental context for cyanobacteria blooms in nine lakes in the Puget Sound region*, North American Lake Management Society Annual Symposium, October 30, 2013, San Diego, CA.

*Reduction of cyanobacteria blooms by reducing internal loading with alum*, North American Lake Management Society Annual Symposium, October 30, 2013, San Diego, CA.

*Management of the invasive aquatic plant Hydrilla in Washington State*, North American Lake Management Society, 29<sup>th</sup> Annual International Symposium, Hartford, CT, October 2009.

*Toxic algae issues in Washington State*. Oregon Lakes Association annual conference, Lincoln City, OR, September 2009.

*Toxic cyanobacteria in lakes in the Chambers-Clover Creek Watershed (Pierce County, WA)*, North American Lake Management Society, 28<sup>th</sup> Annual International Symposium, Lake Louise, Canada, November 2008.

*Interpreting algal toxin data from the U.S. EPA Survey of the Nation's Lakes*, Washington State Lake Protection Association annual conference, Chelan, WA, October 2007.

*A regional perspective on toxic blue-green algae in the Pacific Northwest*, Army Corps of Engineers workshop in Portland, OR, September 2007.

*Alternative approaches for interpreting lake quality data: algal toxins*, Enhancing the States' Lake Management Programs; 20<sup>th</sup> Annual National Conference, Chicago, IL, April 2007.

*The occurrence and management of toxic cyanobacteria in the Pacific Northwest*, Pacific Northwest Regional Lakes Conference, Portland, OR, September 2006.

*Toxic cyanobacteria: occurrence and regulation in the Pacific Northwest*, North American Lake Management Society, 25<sup>th</sup> Annual International Symposium, Madison, WI, November 2005.

*Cyanobacterial migration and toxicity in Green Lake, Seattle, WA*, Washington State Lake Protection Association annual conference, Lake Chelan, WA, April 2003.

*To bloom or not to bloom: the mystery of toxic cyanobacteria in Lake Sammamish, WA*, North American Lake Management Society, 21<sup>st</sup> Annual International Symposium, Madison, WI, November 2001.

*Alternate stable states in a shallow lake dominated by Egeria densa*, XXVII International Society of Theoretical and Applied Limnology Congress, Dublin, Ireland, August 1998.

*Linking lake management needs with research priorities*, U.S. Environmental Protection Agency's conference *Enhancing the States' Lake Management Programs*, April 1997, Chicago, IL.

*Tracking the elusive toxic bloom*. North American Lake Management Society, 13<sup>th</sup> Annual International Symposium, November 1996, St. Paul, MN.

*Egeria densa decline and response to drawdown, alum, and harvesting*, North American Lake Management Society, 13<sup>th</sup> Annual International Symposium, November 1996, St. Paul, MN.

*Lakes: No pool could be so cool*, Western Aquatic Plant Management Society Annual Symposium, Portland, OR, March 1996.

*Periphyton response to nutrient enrichment in Lake Chelan, Washington*, North American Lake Management Society, 9<sup>th</sup> Annual International Symposium, Austin, TX, November 1989.

*Phosphorus cycling in a shallow, eutrophic lake*, Annual Symposium of the American Society of Limnology and Oceanography, Seattle, WA, December 1980.

## **COURSES TAUGHT AT SEATTLE UNIVERSITY**

CEEGR 341 Biological Principles for Environmental Engineers

CEEGR 342 Environmental Engineering Chemistry

CEEGR 343 Air Pollution Engineering

CEEGR 476 Environmental Law and Impact Studies

CEEGR 477 Special Topics in Environmental Engineering

ISSC 207 Air and Water

## **FACULTY ADVISOR FOR THE FOLLOWING SENIOR DESIGN PROJECTS**

*Seattle Housing Authority and Lake Washington Sound Transit Integrated Drainage Plan: Off-site Stormwater Treatment Alternatives*, Seattle Public Utilities, 2005-2006.

*Mapes Creek Daylight and Stream Alignment*, U.S. Army Corps of Engineers, 2003

*Longfellow Creek Study*, Seattle Public Utilities, 2002-2003

*Bitter Lake Storm Water Quality Engineering Study*, Seattle Public Utilities, 2001-2002

*Haller Lake Drainage Improvements*, Seattle Public Utilities, 2000-2001.

*132<sup>nd</sup> Street SE Improvement Project*, David Evans and Associates, 1999-2000.

*Assessment of Infiltration Pond Effectiveness*, King County, 1997-1998.

*Ferncliff Avenue Road Widening Project*, SVR Engineers, 1996-1997.

*Rapid Environmental Assessment Project*, U.S. Public Health Service, 1995-1996.

*Biofiltration Analysis for the Frederickson Site*, Boeing Company, 1992-1993.