Chris J. Berger

Department of Civil and Environmental Engineering
Portland State University
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Education:

PhD. in Environmental Sciences and Resources: Civil Engineering, 2000, Portland State University. Dissertation topic: "Modeling Macrophytes of the Columbia Slough"

Master of Science in Civil Engineering, Portland State University, 1994. Thesis topic: "Water Quality Modeling of the Tualatin River"

Bachelor of Science in Civil Engineering, Portland State University, 1991

Bachelor of Science in Physics, Oregon State University, 1987

Professional Registration:

Professional Engineer, P. E., Oregon #48590, Civil Engineering

Expertise:

- Water Quality and Hydrodynamic Modeling
- Development and application of CE-QUAL-W2 water quality model
- Ground Water Modeling
- Computer Programming
- Water Quality Sampling
- Environmental Data Analysis

Work Experience:

Research Assistant Professor (2011 to present), Senior Research Associate (2007 to 2011), Research Associate (2001 to 2007) and Research Assistant (1997 to 2001), Department of Civil and Environmental Engineering, Portland State University. Currently participating in the development of water quality models. Responsibilities include computer programming, model calibration, water quality sampling, analysis of management scenarios, and the development of new modeling algorithms. Contributed to the development of water quality models of the Tualatin River, Oregon; Columbia Slough, Oregon; Willamette River, Oregon; Lake Whatcom, Washington; Cooper Creek Reservoir, Oregon; Spokane River, Washington; Lake Whatcom, Washington; Laurance Lake, Oregon; Snake River, Idaho; and the Pend Oreille River, Washington and Idaho

Engineering Consultant (1996 to present). Development of water quality and hydrodynamic models.

Instructor (2008), Developed and taught "Temperature Modeling of Rivers and Lakes", a graduate level modeling class at Portland State University.

Instructor (1997 to present), Water Quality Model CE-QUAL-W2 annual workshop, Portland, Oregon.

Contract Student Worker. U. S. Army Corps of Engineers Waterways Experiment Station, Vicksburg, Mississippi (October, 1996 to December, 1996). Conducted literature review of biological and chemical rate coefficients used in water quality modeling.

Junior Engineer. Mackenzie Engineering Incorporated, Portland (June, 1991 to December, 1991). Site development work including the design of storm sewers, sanitary sewers, roads, parking lots, and water utilities.

Assistant Watermaster. Tualatin River District, Washington County. Oregon (June, 1990 to September, 1990). Measured stream flows, maintained stream gaging stations, helped regulate water rights , surveyed stream gaging sites, and inspected wells in the Tualatin River basin.

Reviewer:

Reviewer for Hydrobiologia
Reviewer for Journal of the North American Benthological Society
Reviewer for Journal of Hydrological Engineering
Reviewer for Water Resources Research

Publications:

Berger, C. J.; Wells, S. A..; and Wells, V. (2012) "Modeling of Water Quality and Greenhouse Emissions of Proposed South American Reservoirs," Proceedings of the 2012 World Environmental & Water Resources Congress, Albuquerque, New Mexico, May 20-24, 2012.

Wells, S. A..; Wells, V., and C. J. Berger (2012) " Impact of Phosphorus Loading from the Watershed on Water Quality Dynamics in Lake Tenkiller, Oklahoma, USA," Proceedings of the 2012 World Environmental & Water Resources Congress, Albuquerque, New Mexico, May 20-24, 2012.

Berger, C. J.; Annear, R. L.; McKillip, M. L.; Wells, V.; and Wells, S. A. (2009) "Modeling the Spokane River-Lake Roosevelt System," Proceedings of the 33rd International Association of Hydraulic Engineering and Research (IAHR) Congress, Vancouver, BC, August 9-14, 2009.

Cheslak, E; Berger, C; Annear, R., and Wells, S. (2009) "Protecting Spring-Run Chinook Salmon: The Use of a Two-dimensional Water Temperature Model to Evaluate Alternative Hydroelectric Operations," WaterPower XVI Proceedings, Spokane, WA, July 27-30, 2009

Berger, C. J. and Wells, S. A. (2008) "Modeling the Effects of Macrophytes on Hydrodynamics," Journal of Environmental Engineering,134(9), 777-788.

Berger, C. J. and Wells, S. A. (2007) "Development and Calibration of Lake Whatcom Water Quality Model ," Proceedings of the Water Environment Federation TMDL Conference, Seattle, WA, June 24-27, 2007.

Berger, C. J. and Wells, S. A. (2007) "Modeling Effects of Channel Complexity and Hyporheic Flow on Stream Temperatures," Proceedings of the Water Environment Federation TMDL Conference, Seattle, WA, June 24-27, 2007.

Wells, S. A., Berger, C. J., Annear, R. L., McKillip, M. and Jamal, S. (2004) "Willamette River Basin Temperature Modeling Study," Proceedings, Watershed 2004, Dearborn, MI, July 11-14,2004.

Wells, S. A., Berger, C. J., Annear, R. L., McKillip, M. and Jamal, S. (2003) "Willamette River Basin Temperature TMDL Modeling Study," Proceedingsb National TMDL Science and Policy Conference, Chicago, IL, November 16-19, 2003.

Berger, C.; Annear, R. and Wells, S. (2002) "TMDL Development of the Spokane River-Long Lake System using CE-QUAL-W2," Proceedings, Water Environment Federation National TMDL Science and Policy Conference, Phoenix, Nov 13-16, 2002.

Berger, C.; Annear, R. and Wells, S. (2002) "Willamette and Columbia River Waste Allocation Model," Proceedings, 2nd Federal InterAgency Hydrologic Modeling Conference, Las Vegas, July 28-Aug 1, 2002.

Berger, C. and Wells, S. (1999) "Macrophyte Modeling of the Columbia Slough," Proceedings International Water Resources Engineering Conference, ASCE, Seattle, Wa, Aug.8-11.

Wells, S. and Berger, C. (1998) "Water Quality Impacts of Urban Stormwater Runoff from the Portland International Airport on the Columbia Slough," [in Polish], Proceedings Gdanska Fundacja Wody, Podczyszczanie Wod Opadowych Wymagania Formalnoprawne I Mozliwosci Technicne, Gdansk, Poland.

Wells, S. A.; Berger, C. J., Abrams, M. (1996) "Winter Storm Event Impacts on Dissolved Oxygen Levels in the Columbia Slough System," The Pacific Northwest Floods of February 6-11, 1996, Proceedings of the Pacific Northwest Water Issues Conference, ed. by A. Laenen, American Institute of Hydrology, pp.107-126.

Berger, C. and Wells, S. A. (1995) "Effects of Management Strategies to Improve Water Quality in the Tualatin River, Oregon," in Water Resources Engineering, Vol. 2, ed. by W, Espey Jr. and P. Combs, ASCE, 1360-1364.

Technical Presentations:

Berger, C. J.; Annear, R. L.; McKillip, M. L.; Wells, V.; and Wells, S. A. (2009) "Modeling the Spokane River-Lake Roosevelt System," Proceedings of the 33rd International Association of Hydraulic Engineering and Research (IAHR) Congress, Vancouver, BC, August 9-14, 2009.

Berger, C. J. and S. A. Wells (2007) "Pend Oreille River Temperature Waste Load Allocation Model," Pacific Northwest Clean Water Association 2007 Conference, Vancouver, Washington, September 9-12.

Berger, C. J. and Wells, S. A. (2007) "Development and Calibration of Lake Whatcom Water Quality Model ,"Water Environment Federation TMDL Conference, Seattle, WA, June 24-27, 2007.

Berger, C. J. and Wells, S. A. (2007) "Modeling Effects of Channel Complexity and Hyporheic Flow on Stream Temperatures," Water Environment Federation TMDL Conference, Seattle, WA, June 24-27, 2007.

Berger, C. J. and S. A. Wells (2006) "Columbia Slough Water Quality Model," 4th Annual Urban Ecology and Conservation Symposium, Portland, Oregon, January 27.

Berger, C. J. and S. A. Wells (2005) "Lake Whatcom Water Quality Model," Pacific Northwest Clean Water Association 2005 Conference, Tacoma, Washington, September 25-28.

Berger, C. J. and S. A. Wells (2005) "Laurance Lake Temperature Study, and Alternate Methods for Controlling Temperatures Downstream for Fish," Hood River Watershed Group, Parkdale, Oregon, June 28.

Berger, C.; Annear, R. and Wells, S. (2003) "Willamette River System Temperature Waste Allocation Model," Pacific Northwest Clean Water Association Conference, Boise, Idaho, September 14-17.

Berger, C. J., R. L. Annear and S. A. Wells (2002) "A Water Quality Model for the Spokane River-Long Lake System Using CE-QUAL-W2," National TMDL Science and Policy Conference, Water Environment Federation, Phoenix, Arizona, November 13-16.

Berger, C.; Annear, R. and Wells, S. (2002) "Water Quality Modeling of the Lower Willamette River," Pacific Northwest Clean Water Association 69th Annual Conference, Yakima, Washington, October 20-23.

Berger, C.; Annear, R. and Wells, S. (2002) "Willamette and Columbia River Waste Allocation Model," 2nd Federal InterAgency Hydrologic Modeling Conference, Las Vegas, July 28-Aug 1, 2002.

Berger, C. (2001) "Modeling Macrophytes of the Columbia Slough," (2001) Oregon Lakes and Reservoirs Symposium, Portland, Oregon, September 21.

Berger, C. and S. Wells (2000) "Investigation of Alternatives to Managing Macrophyte Growth in the Columbia Slough, Oregon," Pacific Northwest Pollution Control Association 67th Annual Conference, Coeur d'Alene, Idaho, October 29-November 1.

Berger, C. and S. Wells (1999) "Modeling Macrophytes of the Columbia Slough, Oregon," International Water Resource Engineering Conference, ASCE, Seattle, Washington, August 8-12.

Wells, S. and C. Berger (1998) "River Basin Modeling with CE-QUAL-W2 Version 3.0," Pacific Northwest Pollution Control Association 65th Annual Conference, Portland, Oregon, October 25-28.

Berger, C. and S. Wells (1997) " Water Quality Effects of Hydraulic Changes to the Columbia Slough," American Water Resources Association Annual Conference on Water Resources," Long Beach, California, October 19-23.

Berger, C. and Wells, S. A. (1995) "Effects of Management Strategies to Improve Water Quality in the Tualatin River, Oregon," The First International Conference on Water Resources Engineering, American Society of Engineers, San Antonio, Texas, August 14-18, 1995.