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Biographical sketch

Ph.D. from Cornell University in Civil and Environmental Engineering, Master's degree in Civil Engineering at Massachusetts Institute of Technology, BS in Civil Engineering at Tennessee Technological University. Since 1987 he has been at Portland State University and is currently Chair and Professor of Civil and Environmental Engineering. His research areas are in modeling of environmental fluid mechanics: surface water quality and hydrodynamics and solid-liquid separation processes. He has written over 100 technical publications and is a co-developer of the latest version of the CE-QUAL-W2 water quality and hydrodynamic model.

He has been involved in about 100 water body studies. In Oregon, he has been involved in hydrodynamic/water quality modeling on the Tualatin River, Hagg Lake, the Columbia Slough system (Lower Columbia Slough, Upper Columbia Slough, Smith and Bybee Lakes, Peninsula Canal), Klamath River, Russel Creek (near Eugene), Coast Fork of the Willamette River, Bull Run Reservoir #2, Bull Run Reservoir #1, Bull Run Reservoir #3, Bull Run Lake, Upper and Lower Bull Run River, Willamette River (Oregon City Falls to Columbia River, including Multnomah Channel, Willamette River basin), Johnson Creek, Ashland Creek, Cooper Creek Reservoir, Skipanon River, Schooner Creek, Siletz Bay, South Santiam River, Middle Fork Willamette River, Bear Creek, Stone Creek below Timothy Lake, Laurance Lake, Waldo Lake, South Slough off Coos Bay, Yaquina Bay and Yaquina River, the Clackamas River Basin (Clackamas River, Timothy Lake, Lake Harriet, Frog Lake, North Fork Reservoir, Faraday Lake, Estacada Lake) and areas of Tillamook Bay and the Columbia River (Bonneville Dam to St. Helens). His experience also includes water quality and hydrodynamic studies in *Hawaii* (Wahiawa Reservoir), *Virginia* (N. Anna Reservoir), *Tennessee* (Center Hill Lake), *Kentucky* (Laurel River Reservoir), *Idaho* (Boise River, Lower Snake River from Brownlee Reservoir to C. J. Strike Reservoir, Brownlee Reservoir, C. J. Strike Reservoir, Spokane River, Oxbow Reservoir, Hells Canyon Reservoir, Coeur D'Alene Lake, Pend Oreille River and Lake), *California* (Klamath River, Philbrook Reservoir, DeSabra Reservoir, Butte Creek, Millerton Lake), *Washington* (Columbia River, Clear Lake, Spirit Lake, Spokane River, Long Lake, White and Puyallup Rivers, Snohomish River and Estuary, Green River, Lake Roosevelt, Chelan River, Pend Oreille River, Tolt Reservoir, Lake Chaplain), *Wisconsin* (Kinnickinnic River, Lake George), *North Carolina* (Jocassee and Keowee Reservoirs), *Oklahoma* (Tenkiller Reservoir on the Illinois River), *Texas* (Lake Lavon, Lake Travis), *Florida* (Tampa Bay Water Supply Reservoir, Reservoir C-44), *Israel* (Lake Kinneret or Sea of Galilee, Jordan River, Dead Sea, experimental ponds at Dead Sea Works), and in the *Ukraine* (Dnieper River-reservoir system and Kiev Sea), where he spent the 1993-1994 year as a Fulbright scholar. For the 2007-2008 year, he was selected again as a Fulbright Scholar and taught and did research at the Earth Institute at Hebrew University and at the Israeli Geologic Survey in Jerusalem. During that time he worked on the environmental impacts of the proposed Peace Conduit between the Gulf of Aqaba and the Dead Sea.

Current funded University research includes:

- Water quality and hydrodynamic river basin modeling with CE-QUAL-W2, Corps of Engineers, Waterways Experiment Station, MS
- Chaplain Lake, City of Everett, WA
- Barney Reservoir, City of Hillsboro, OR
- Tolt Reservoir Temperature and Turbidity Modeling Study, City of Seattle, WA
- Spokane River Model Development in Washington and Idaho, Washington Ecology and Environmental Protection Agency, Region X, Seattle, WA.
- Waldo Lake Eutrophication Study, US Forest Service
- Lake Whatcom, Washington, Washington Department of Ecology
- Lake Roosevelt, Washington, Water Quality Modeling Study, Spokane Tribe of Indians
- Lake Whatcom Model Study, Washington Department of Ecology
- Pend Oreille River Study, Idaho DEQ and Washington Ecology

EDUCATIONAL BACKGROUND:

Ph.D. Cornell University 1990

"Modeling and Analysis of Compressible Cake Filtration"

S.M. Massachusetts Institute of Technology 1982

"Calibration and Verification of the Cooling Lake Model for North Anna Power Station"

M.S.C.E. Tennessee Technological University 1980

"Three-Dimensional Field Evaluation and Analysis of Water Quality in Two Reservoirs"

B.S.C.E. Tennessee Technological University 1979

PROFESSIONAL EXPERIENCE:

Chair, Department of Civil and Environmental Engineering, Portland State University

(September 2002 to present)

Professor (September 1995 to present)

Associate Professor (September 1990 to August 1995)

Assistant Professor (September 1987 to August 1990)

Department of Civil Engineering, Portland State University

Graduate Research Assistant (September 1984 to August 1987)

Cornell University

Visiting Assistant Professor (January 1983 to August 1984)

Department of Mechanical and Aerospace Engineering, Boston University

Research Engineer (April 1982 to December 1982) R. M. Parsons Laboratory for

Hydrodynamics, Massachusetts Institute of Technology

Graduate Research Assistant (September 1980 to March 1982)

Massachusetts Institute of Technology

Graduate Research Assistant (March 1979 to August 1980)

Tennessee Technological University

CONSULTANT TO:

- Portland Water Bureau, Portland, Oregon (Waybo landfill effect on groundwater pollution for Portland wellfield, 1988)
- Metropolitan Portland District Commission, Portland, Oregon (Effect of St. John's landfill on water quality in Columbia River Slough, 1989)
- Rhone-Poulenc Chemical Company, Shelton, Connecticut (Conditioning aids for sludge dewatering processes, 1988-1989)
- State of Oregon, Division of State Lands, South Slough, Oregon (Design and construction of stream gaging sites, 1989)
- Scientific Resources, Inc., Lake Oswego, Oregon (Water quality modeling of wastewater plumes in Tillamook Bay Estuary, 1989)
- Linda K. Williams, Attorney, Portland, Oregon (Near field and far field analysis of Boise Cascade/City of St. Helens discharge into the Columbia River, 1989)
- OBEC Consulting Engineers, Eugene, Oregon (Design of modifications for the Leaburg Power Canal Fish Screens, 1989)
- AMTRAK, Washington, D.C. (Effect of passenger trains dumping wastewater on railroad tracks in State of Oregon, 1989)
- EWEB (Eugene Water and Electric Board), Eugene, Oregon (Hydraulic impacts of baffles after placement behind the Leaburg Power Canal Fish Screens, 1990)
- Woodward-Clyde Consulting Engineers, Portland, Oregon (Evaluation of storm water master plan for the City of Portland, 1990)
- John Harrison, Wastewater Network, West Linn, Oregon (Review of biological nitrification processes, 1990)
- Fishman Environmental Services, Portland, Oregon (Johnson Creek Water Resources management program including water quality, flood, natural resource, and human environmental issues in the watershed, 1990)
- Black/Veatch and Scientific Resources, Inc., Lake Oswego, Oregon (Water quality modeling of the effect of the Ramsey Lake wetlands treatment system on the Columbia Slough, 1991)

- Cornforth Consultants, Inc., Portland, Oregon (Finite element modeling of the groundwater levels associated with pumping to fill a reservoir for a pumped storage project, 1991)
- HDR Engineering, Inc., Lake Oswego, Oregon (Water quality assessment of the TMDL process for the Lower and Upper Columbia Slough; water quality modeling of the Upper Columbia Slough, 1991-1992)
- Unified Sewerage Agency, Hillsboro, Oregon (Assessment of groundwater contamination from a temporary wastewater sludge storage facility; modeling the unsteady leachate plume, 1992)
- Cascade Environmental Services, Bellingham, Washington (Dissolved oxygen modeling of the discharge of Timothy Lake to Stone Creek near Mt. Hood, Oregon, 1993)
- CH2MHill, Portland, Oregon (Water quality modeling of the Klamath River system in Southern Oregon, 1995-1996)
- Carollo Engineers, Portland, Oregon (Water quality modeling of the Wahiawa Reservoir in Oahu, Hawaii, 1995-1996)
- Carollo Engineers, Portland, Oregon (Water quality modeling of the near-field mixing of the Caldwell treatment plant discharge into the Boise River, Idaho, 1996)
- SECOR International, Portland, Oregon (Water quality modeling of the effect of log rafts on water quality in the Klamath River, Oregon, 1996, 1997)
- Carollo Engineers, Portland, Oregon (Water quality and hydraulic assessment of Bear Creek and Ashland Creek, in Ashland, Oregon, 1996, 1997)
- R. M. Towill Corporation, Honolulu, Hawaii (Water quality modeling of Wahiawa Reservoir, Oahu, Hawaii, 1997)
- SECOR International, Portland, Oregon (Water quality modeling of near-field mixing in the Willamette River, Oregon, 1997)
- Seifer, Yeats, and Mills, LLP, Portland, Oregon (Stormwater and hydraulic modeling of the February 1996 flood in Lake Oswego, Oregon, 1997)
- METRO, Portland, Oregon (Water quality monitoring plan for Smith and Bybee Lakes, Portland, 1997)
- HDR Engineering, Inc., Boise, Idaho (Water quality and hydrodynamic modeling of the Lower Snake River between C. J. Strike Reservoir and Brownlee Reservoir, Idaho, 1997-1999)
- Carollo Engineers, Portland, Oregon (Water quality assessment of Ashland Creek, in Ashland, Oregon, 1998)
- Crawford Engineering, Portland, Oregon (Assessment of City of Astoria, Oregon, near-field mixing problems, 1998)
- LimnoTech, Inc. Ann Arbor, Michigan (Water quality and hydrodynamic modeling of the Spokane River, Idaho, 1998)
- R. M. Martin, Inc., Lake Oswego, Oregon (Hydraulic modeling of 100 year flood events for sub-basin in Lake Oswego, Oregon, 1998)
- R. M. Towill Corporation, Honolulu, Hawaii (Water quality and hydrodynamic modeling of Wahiawa Reservoir, Hawaii, 1998/1999)
- Abiqua Engineering, Salem, Oregon (Water quality modeling of Russel Creek and Coast Fork of Willamette River, Oregon, 1998/1999)
- City of Bremerton, Bremerton, Washington (Evaluation of sediment contamination in Sinclair Inlet, Puget Sound, 1998)
- Ogden-Beeman Engineers, Portland, Oregon (Evaluation of velocities and water levels around St. John's Landfill, 1998/1999)
- HDR Engineering, Inc., Boise, Idaho (Water quality and hydrodynamic modeling of Snake River, Brownlee Reservoir, Hells Canyon Reservoir, and Oxbow Reservoir, Idaho/Oregon, 1999-2001)
- U.S. Environmental Protection Agency, Seattle, Washington (technical review of temperature modeling of the Columbia River system, 1999)
- HDR Engineering, Inc., Boise, Idaho (Tampa, Florida Water supply reservoir modeling, 1999-2001)
- City of Sutherlin, OR (Water quality modeling of hypolimnetic aeration for Cooper creek Reservoir, OR, 2000)
- Lincoln City, OR (Far field water quality modeling of the Lincoln City discharge into Schooner Creek and Siletz Bay, OR, 2000)
- Duke Engineering, Bellingham, WA (Water quality modeling of the Clackamas River-Reservoir systems, OR, 2000-2001)
- SECOR, Inc., Portland, OR (Water quality analysis of the tidal river Skipanon River near Astoria, OR, 2000)

- Parsons Brinckerhoff, Quade & Douglas, Portland, Oregon (Evaluation of new discharge structure at the entrance between N. Slough and Smith/Bybee Lakes around St. John's Landfill, 2001)
- Lincoln City, Oregon (Near field mixing modeling of the WWTP outfall into Schooner Creek), 2001.
- HDR Engineering, Inc., Boise, Idaho (Washington, Hydrodynamic modeling of the White and Puyallup Rivers), 2001.
- Tulalip Indian Tribes, Tulalip, Washington (Snohomish River system model review), 2001-2002.
- Portland General Electric, Portland, Oregon (Water quality modeling of the Willamette River in the vicinity of the Willamette Falls), 2002, 2005, 2006.
- City of Portland, Water Bureau, Portland, Oregon (Boeing-Cascade groundwater pollution study), 2002.
- Washington Department of Ecology, Olympia, Washington (Water quality modeling of Moses Lake, WA), 2002.
- Duke Engineering through Loginetics, Inc., TN (Temperature and hydrodynamic modeling of the Keowee Reservoir for the Oconee Nuclear Plant), 2003.
- Israeli Geologic Survey, Jerusalem, Israel (Hydrodynamic and Water Quality Modeling of the Dead Sea), 2003-2005.
- Idaho Power Company, Boise, ID (Snake River system – Hells Canyon, Brownlee, Oxbow, CJ Strike Reservoirs and Snake River water quality and hydrodynamic modeling), 2003-2005.
- Idaho Department of Environmental Quality, Boise, ID (CE-QUAL-W2 training), 2003
- AVISTA Corporation, Spokane, WA through Golder Associates and HDR (Water quality and hydrodynamic issues with reservoirs along the Spokane River for relicensing, peer-review of Coeur d'Alene temperature and dissolved oxygen CE-QUAL-W2 model, evaluation of the no-dam scenario for Spokane river system), 2003-2004, 2006.
- Bonestroo, Rosene, Anderlik, and Associates, St. Paul, MN (Water quality and hydrodynamic modeling of the Kinnickinnic River and Lake George, Wisconsin), 2003.
- EPA Region IX, CA (Water quality and hydrodynamic modeling of the Klamath River system workshop), 2003.
- US Bureau of Land Management, Portland, OR (Water quality and hydrodynamic model review of the Klamath River system), 2003-2004.
- US Bureau of Reclamation, Sacramento, CA (CE-QUAL-W2 training), 2004
- Columbia River Intertribal Fish Commission, Portland, OR (Review of Lake Chelan and Chelan River model in WA), 2004.
- PacifiCorp, Portland, OR (Review of the Klamath River Hydrodynamic and Water Quality Model), 2004.
- Chelan Public Utility District, Wenatchee, WA (Review of temperature modeling in the Columbia River - Rocky Reach Reservoir), 2004, 2005.
- City of Kansas City, Kansas City, MI through Kennedy-Jenks Consulting Engineers (Temperature modeling of biological activity in a trickling filter), 2004.
- Pacific, Gas and Electric Company, San Ramon, CA, (Butte Creek hydrodynamic, temperature, and water quality model), 2005-2006.
- Stormwater Management, Portland, OR (Patent law infringement suit regarding hydraulic design of stormwater filters), 2005.
- City of Toledo, OR (Mixing zone study for WWTP outfall in the Yaquina River), 2005.
- EPA, Region IX (Review of Klamath TMDL model), 2005.
- Idaho DEQ, Boise, ID (Review of Coeur d'Alene USGS model), 2006-2007.
- MWH Engineering, Sacramento, CA (Technical model assistance for modeling hydrodynamics and temperature for Millerton Reservoir, CA), 2006, 2007.
- HyQual Engineering, Boise, ID (Technical modeling assistance for modeling hydraulics and water quality in the Boise River), 2006.
- Quantitative Environmental Analysis, LLC, Austin, TX (Technical assistance with water quality modeling of Lake Travis, Texas), 2007.
- ConTech Stormwater Solutions, Portland, OR (Technical assistance with stormwater treatment efficiency tests), 2007-2008.
- State of Oklahoma, Tulsa, OK (Water quality and hydrodynamic modeling of Tenkiller Lake, OK), 2007-2009.
- EPA, Region IX (Water quality modeling of Lake Roosevelt for 2006), 2008-2009.

- AVISTA, Corporation, Spokane, WA (Water quality impacts of operation of Long Lake on the Spokane River, WA), 2008.
- EPA, Region IX (Peer review of Budd Inlet, Capitol Lake, and Deschutes River modeling), 2008-2009.
- Alan Plummer Associates, Ft. Worth, TX (Water quality and hydrodynamic modeling of Lake Lavon, TX), 2009.

HONOR SOCIETIES, AWARDS, REGISTRATION, MEMBERSHIPS AND PROFESSIONAL SOCIETIES:

Committee and Advisory Board Memberships:

- Project Advisory Committee (PAC) for American Water Works Association (AWWA) Research Foundation for "Hydrodynamic Distribution of Pathogens in Lakes and Reservoirs," 2000/2001
- Project Advisory Committee (PAC) for American Water Works Association (AWWA) Research Foundation for "'Development and Implementation of Random Walk Particle-Tracking Analyses of Water Supply Intakes on Detroit Rivers and Lakes: A Case Study of the St. Clair-Detroit River Waterway." 2001-2004.
- ASCE Energy Engineering Division (EY) Environmental Effects Committee Task Committee on Effects of Energy Production on Reservoir Water Quality, 2001-present
- Member, Bronson Creek Water Quality Technical Advisory Committee, Unified Sewerage Agency, 1995-present
- Member, Tualatin Basin Water Quality Technical Advisory Committee, Department of Environmental Quality, 1995-present
- Member, Winchester Tidelands Restoration Project Advisory Group, South Slough National Estuary Reserve, Charleston, Oregon, 1993-present
- Member, Mt. Hood Community College Hazardous Materials Management Program Advisory Board, Portland, Oregon, 1992-2000
- Member, Technical Advisory Committee, Columbia Slough Water Quality Implementation Plan, 1993-present
- Member, Columbia River System Operation Review Team, Water Quality Work Group, 1991-1993
- Member, METRO Wetlands Technical Advisory Committee for Smith and Bybee Lakes, 1991-present
- Member, METRO St. John's Landfill Technical Advisory Committee, 1990-present
- Member, Portland Water Bureau Technical Advisory Committee, 1989-1990
- Member, Water Treatment Residuals Committee, AWWA, 1988-1990
- Member, ASCE Student Affairs Committee, Oregon Section, 1991-1993
- Member Task Force for PORT of Portland's NPDES Permit for Deicing Chemicals, 1997-1998
- Portland State University Committees (Academic Requirements Committee, CE and EAS Scholarship Committees, Honors Program advisor, ASCE advisor, Tau Beta Pi advisor, Departmental Promotion and Tenure Committee [chair], University Planning Council [chair 98/99], SEAS Technical Advisory Committee, Curriculum Committee [chair], University Budget Committee)

Reviewer:

- Reviewer for National Science Foundation Research Proposals
- Reviewer for USGS Water Resource Research Institute Proposals
- Reviewer for Fluid/Particle Separation Journal
- Reviewer for Powder Technology
- Reviewer for Separations Technology
- Reviewer for Separation Science and Technology
- Reviewer for Journal of Environmental Engineering, ASCE
- Reviewer for Journal of Geotechnical Engineering, ASCE
- Reviewer for Journal of Hydrologic Engineering, ASCE
- Reviewer for Journal of Hydraulic Engineering, ASCE
- Reviewer for Journal of Irrigation and Drainage, ASCE
- Reviewer for Environmental Science and Technology
- Reviewer for Water Resources Research

- Reviewer for International Journal of Heat and Mass Transfer
- Reviewer for Estuarine, Coastal and Shelf Science
- Reviewer for AFS Book: Introduction to Filtration
- Reviewer for Journal of HydroInformatics
- Reviewer for American Society of Agricultural and Biological Engineers
- Reviewer for CRDF (U.S. Civilian Research and Development Foundation for the Independent States of the Former Soviet Union) Proposals for Armenian-US Bilateral Grants Program III and the BRHE Program
- Judge Intel Northwest Science Expo 2002

Professional Societies:

- Water Environment Federation
- American Filtration and Separations Society (Member, Board of Directors 95-96, 97-99; Chair, Education Committee 96-2000, 2001-present)
- American Society of Civil Engineers

Honor Societies:

Phi Kappa Phi, Tau Beta Pi, Kappa Mu Epsilon, Chi Epsilon, Sigma Xi

Awards:

Fulbright Scholar Award 1993-1994 Academic Year to Kiev, Ukraine
 Fulbright Scholar Award 2007-2008 Academic Year to Jerusalem, Israel
 PSU CECS Faculty Research Award, 2001
 Pathfinder Award of Excellence – HDR Engineering, Boise ID, 2002

Registration:

Professional Engineer: P.E. (Oregon #15050) (Civil Engineer, Environmental Engineer)

Conference Moderator: American Filtration Society, Cake Filtration Session, St. Louis, Mo., 1998; American Filtration Society, Fundamentals of Cake Filtration Session, Boston, MA, 1999; American Filtration Society, Fundamentals of Cake Filtration, Myrtle Beach, SC, 2000; AGU Conference 2004 Session co-chair; Yearly CE-QUAL-W2 Seminar

COURSES DEVELOPED:

Boston University, Department of Mechanical and Aerospace Engineering:
 EK 390,391,392 Calculus and Differential Equations, Fluid Mechanics and Thermodynamics, Solid Mechanics
 EK 401,402,403,404 Fourier Series and Partial Differential Equations, Linear Algebra for Engineers, Vector Field Theory for Engineers, Approximation Methods for Engineers
 AM 513 Compressible Fluid Dynamics
 AM 519 Heat Transfer
 AM 701 Advanced Fluid Mechanics

Portland State University, Department of Civil and Environmental Engineering:
 EAS 361 Fluid Mechanics
 CE 315 The Civil and Environmental Engineering Profession
 CE 364 Water Resources Engineering
 CE 371 Environmental Engineering
 CE 474 Unit Operations of Environmental Engineering
 CE 510 Near-Field Mixing Modeling
 CE 569 Groundwater Hydraulics and Contaminant Transport
 CE 572 Environmental Fluid Mechanics I
 CE 573 Numerical Methods in Environmental and Water Resources Engineering

CE 574 Advanced Physical/Chemical Environmental Engineering Processes
CE 576 Environmental Fluid Mechanics II
CE 578 Water Quality Modeling

Technion University, Department of Water Resources, Faculty of Civil Engineering, Haifa, Israel: Water Quality and Hydrodynamic Modeling, Spring 2001

Hebrew University, Jerusalem, Earth Institute, Hydrodynamic and Water Quality Modeling, Fall/Winter 2007/2008.

Instructor for yearly CE-QUAL-W2 Workshop with Tom Cole, Corps of Engineers, Waterways Experiments Station, Portland, Oregon, 1997-present

Instructor for Environmental Engineering Professional Engineering Review Course, Oregon, 1996-1999

Instructor for Civil Engineering Professional Engineering Review Course, Oregon, 2006-present.

Multi-media Course Development for Solid-Liquid Separation Processes, 1996-1997

FUNDED UNIVERSITY RESEARCH PROJECTS:

- "Environmental Engineering Laboratory Development and Demonstration Project," Portland State University, Faculty Development Grant, 1988, \$3000.
- "Sedimentation and Deep-Bed Filtration Pilot Plant," City of Portland, Water Works Bureau, 1989, \$1800.
- "Field Study of Density Currents in Sedimentation Basins," Portland State University, Faculty Development Grant, 1988-1989, \$2000.
- "Modeling of Sludge Dewatering Processes," Fundamental Research in Emerging and Critical Engineering Systems, Environmental Engineering Program, U. S. National Science Foundation, 1988-1992, \$132,000.
- "Management of the Hydraulic Regime of Diked Tidal Wetlands in South Slough, Oregon," Marine and Estuary Management Division, National Oceanic and Atmospheric Administration, U. S. Department of Commerce, 1989-1990, \$30,000.
- "Management of Diked Tidal Wetlands in South Slough, Oregon," Marine and Estuary Management Division, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, 1990-1991, \$32,000.
- "Modeling and Monitoring of the Water Quality in the Columbia Slough," City of Portland, Bureau of Environmental Services, 1990-1992, \$86,000.
- "Analysis and Monitoring of Leachate from the St. John's Landfill into the Columbia Slough," METRO, Portland, Oregon, 1990-1994, \$55,000.
- "Water Quality and Hydrodynamic Modeling of the Tualatin River System," Department of Environmental Quality, Portland, Oregon, 1992-1993, \$154,000.
- "Field Study and Analysis of Water Level Management in the Upper Columbia Slough," City of Portland, Oregon, 1993-1995, \$80,000.
- "Analysis of the Impact of Leachate from the St. John's Landfill and Flow from Smith and Bybee Lakes into the Columbia Slough," METRO, Portland, Oregon, 1994-1995, \$35,000.
- "Oregon Joint Graduate Schools in Engineering," Equipment and Administration of Joint Graduate Program in Environmental Engineering, State Board of Higher Education, Oregon, 1992-1995, \$60,000.
- "Water Quality and Hydrodynamic Modeling of Smith and Bybee Lake Open to the Columbia Slough," METRO, Portland, Oregon, 1995-1996, \$10,400.
- "Monitoring and Water Quality and Hydrodynamic Modeling of the Columbia Slough System," City of Portland, Bureau of Environmental Services, 1995-1998, \$135,000.
- "Evaluation of Groundwater Contamination for Fairview Lake Community," Friends of Blue and Fairview Lakes/ U.S. Environmental Protection Agency, 1996-1997, \$20,000.
- "Columbia River Water Quality and Hydraulic Monitoring," Montgomery Watson Americas, Inc., 1996, \$15,500.

- "Oregon Joint Graduate Schools in Engineering," Equipment and Administration of Joint Graduate Program in Environmental Engineering, State Board of Higher Education, Oregon, 1995-1996, \$76,000.
- "Columbia Slough Model Development," Limno-Tech. Inc. Ann Arbor Michigan, 1997, \$3,600.
- "Evaluation of Groundwater Contamination for the East Multnomah County Site," Friends of Blue and Fairview Lakes/ U.S. Environmental Protection Agency, 1997-1998, \$19,500.
- "Modeling of Sludge Dewatering Processes," Research Institute of Science and Technology, POSCO, Korea, 1997-1998, \$33,000.
- "Hydrodynamic Modeling of Culvert Improvements in the Columbia Slough System," City of Portland, Bureau of Environmental Services, 1997, \$6,764.
- "CE-QUAL-W2 Model Development," Waterways Experiments Station, Vicksburg, MS, 1997, \$12,000.
- "CE-QUAL-W2 Modeling of River Basins," Corps of Engineers, Waterways Experiments Station, Vicksburg, MS, 1997-1999, \$64,800.
- "Habitat Restoration in the Columbia Slough," Corps of Engineers, Portland District, Portland, Oregon, 1997-1998, \$24,840.
- "Experimental Study of Particle Capture Using a Vortex Separation Filter for Storm Water," CDS Technologies, Australia, 1998, \$31,400.
- "CEQUALW2 Model Development," Corps of Engineers, Waterways Experiments Station, Vicksburg, MS, 1998, \$17,000.
- "Habitat Restoration in the Columbia Slough", City of Portland, Bureau of Environmental Services, 1998-2000, \$68,792.
- "Bull Run Reservoir-River System Model Development," City of Portland, Portland Water Bureau, 1998-2000, \$99,150.
- "Turbulence Modeling and Numerical Solution Technique Improvements in the CE-QUAL-W2 Model," Corps of Engineers, Waterways Experiments Station, Vicksburg, MS, 1999-2000, \$40,000.
- "Hydrodynamic and Water Quality Modeling of the Willamette River", Clackamas County, OR, 2000-2001, \$79,000.
- "CE-QUAL-W2 Model Version 3 Development," Corps of Engineers, Waterways Experiments Station, Vicksburg, MS, 1999-2001, \$127,000.
- "Bull Run Hydrodynamic and Temperature Model Development," City of Portland, Portland Water Bureau through Beak Consultants, Inc., 2001, \$18,000.
- "Continuous Deflection Separation of Particles from Stormwater," CDS Technologies, Inc., 2001, \$42,000.
- "Water Quality and Hydrodynamic Modeling of Spokane River – Lost Lake, Washington", Corps of Engineers, Waterways Experiments Station, Vicksburg, MS, 2001-2002, \$90,000.
- "Water Quality and Hydrodynamic Modeling of the Willamette River Basin", Corps of Engineers, District, and the State of Oregon Department of Environmental Quality, Portland, Oregon, 2001-2003, \$120,000.
- "Bull Run Hydrodynamic and Temperature Model Development," City of Portland, Portland Water Bureau through Beak Consultants, Inc., 2002, \$25,000.
- "Columbia Slough TMDL for Temperature Model Assessment," Department of Environmental Quality, State of Oregon, 2002, \$19,000.
- "Temperature Effects of Streambed Heating," Oregon Water Resources Research Center, USGS, 2002, \$15,000.
- "Long-Lake Spokane River Extension to Lake Coeur D'Alene, Idaho," Environmental Protection Agency, Region X, Seattle, WA, 2002, \$20,000.
- "Water Quality and Hydrodynamic Modeling of Spokane River – Lost Lake, Washington 2001", City of Spokane, WA, 2002, \$48,000.
- "Water Quality and Hydraulic Modeling of the Green River Estuary in Washington," King County METRO Seattle, WA, 2002-2003, \$52,000.
- "Columbia Slough TMDL for Temperature Model Assessment," Department of Environmental Quality, State of Oregon, 2003, \$4,400.
- "Laurance Lake Hydrodynamic and Temperature Model," Middle Fork Irrigation District, Oregon, 2003-2004, \$30,000.
- "Continuous Deflection Separation of Particles from Stormwater," CDS Technologies, Inc., 2002-2003, \$30,000.

- “Lake Waldo Environmental Assessment”, US Forest Service, 2003-2005, \$80,000 (Total PSU project funding: \$400,000).
- “Lake Roosevelt Hydrodynamic and Water Quality Modeling Study,” The Spokane Tribe of Indians, Spokane, WA, 2003-2005, \$97,000.
- CE-QUAL-W2 Model Development, Waterways Experiment Station, Corps of Engineers, Vicksburg, MS, 2003-2004, \$38,500.
- “Bull Run Reservoir Modeling,” City of Portland, Water Bureau, Portland, OR, 2003-2004, \$19,000.
- “Lake Whatcom Water Quality and Hydrodynamic Modeling,” Washington Department of Ecology, Olympia, WA, 2004-2005, \$33,500.
- “Klamath Basin Peer Review – Lost River Model”, Oregon Department of Environmental Quality, Bend, OR, 2004-2005, \$15,500.
- “Pend Oreille Lake and River Model – Idaho”, Idaho Department of Environmental Quality, Coeur d’Alene, ID, 2005-2007, \$73,701.
- “Columbia Slough CE-QUAL-W2 Model Development,” City of Portland, Bureau of Environmental Services, Portland, OR, 2005, \$21,979.
- “Laurance Lake Hydrodynamic and Temperature Model,” Middle Fork Irrigation District, Oregon, 2005, \$8,000.
- “Columbia Slough CE-QUAL-W2 Model Development,” City of Portland, Bureau of Environmental Services, Oregon, 2005, \$21,700.
- “Pend Oreille Model Review, Lake Whatcom Management Strategies, Spokane River Idaho Calibration,” Washington Department of Ecology, Olympia, WA, 2005, \$22,000.
- “Clackamas River Model: Impact of Increased Drinking Water Usage on Water Quality,” Clackamas River Water Management Group, Sunrise, OR, 2005-2007, \$47,000.
- “Pend Oreille Temperature Model Development,” Washington Department of Ecology, Olympia, WA, 2005-2007, \$40,000.
- “Lake Whatcom Water Quality Management Alternatives,” Washington Department of Ecology, Olympia, WA, 2005-2008, \$20,000.
- “Spokane River TMDL Model Refinements”, Washington Department of Ecology, Olympia, WA, 2005-2006, \$24,500.
- “Impact on Channel Braiding on Stream Temperatures,” Center for Water and Environmental Sustainability/OSU/USGS, 2006, \$20,200.
- “Tolt Reservoir Temperature and Turbidity Modeling Study,” City of Seattle, Washington, 2006-2007, \$95,000.
- “Modeling the Impact of Increased Water Use in the Clackamas River,” Clackamas River Water Management Group, Sunrise, OR, 2007-2008, \$55,000.
- “Waldo Lake Water Quality Model,” US Forest Service, 2007-2008, \$13,000.
- “Barney Reservoir Water Quality Study,” Washington County Department of Water Resources, 2007-2008, \$50,000.
- “Lake Champlain Reservoir Modeling Study,” City of Everett, WA, 2007-2008, \$25,000.
- “CE-QUAL-W2 and RESSIM Integration,” Corps of Engineers, Waterways Experiments Station, 2008, \$82,000.
- “CE-QUAL-W2 and RESSIM Integration Phase II,” Corps of Engineers, Waterways Experiments Station, 2009, \$55,000.
- “Cedar System Water Supply for the City of Seattle,” City of Seattle, 2009-2010, \$168,000
- “Banks Lake Water Quality Model,” Washington Department of Ecology and Wildlife, 2009-2010, \$115,000
- “Snake River Temperature Study,” Columbia River Intertribal Fish Commission, 2009, \$45,000
- “Spokane River water quality and hydrodynamic modeling for TMDL development,” EPA Region IX, 2009, \$55,000

PUBLICATIONS:

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Schwarz, T. and Wells, S. (1999) "Stormwater Particle Removal Using a Cross-Flow Filtration and Sedimentation Device," Technical Report EWR-5-99, Department of Civil Engineering, Portland State University, Portland, Oregon, 119 pages.

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Wells, S. A.; Annear, R.; Berger, C.; and Sytsma, M. (2000) "Modeling and Analysis of Cooper Creek Reservoir Water Quality," prepared for the City of Sutherlin, OR, March 2000, 75 pages.

Wells, S. A. and Annear, R. (2000) "Modeling of Lincoln City Waste Water Treatment Plant Discharge to Siletz Bay," prepared for the Richwine Environmental, Beaverton, OR, August 2000, 90 pages.

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TECHNICAL PRESENTATIONS:

Wells, S. A. and Gordon, J. A. (1980) "A Three Dimensional, Field Evaluation of Water Quality-Management and Modeling Implications of the Third-Dimension," Symposium on Surface Water Impoundments, June 2-5, Minneapolis, Minnesota.

Bierck, B. R., Wells, S. A., and Dick, R. I. (1986) "Compressible Cake Filtration: Monitoring Cake Formation Using X-Rays from a Synchrotron Source," 59th Annual Conference of the Water Pollution Control Federation, October 5-9, Los Angeles, California.

Wells, S. A. (1987) "Effect of Winter Heat Losses on Treatment Plant Performance," New York Water Pollution Control Federation Conference, January 12-14, New York, New York.

Wells, S. A. and Dick, R. I. (1987) "Analysis of Changes in the Degree of Saturation of a Dewatering Porous Matrix Using Synchrotron Radiation," A.S.C.E. Engineering Mechanics Division, 6th Specialty Conference, May 20-22, Buffalo, New York.

Wells, S. A. and Dick, R. I. (1987) "Dewatering and Desaturation of Compressible Slurries Using Synchrotron Radiation," First CHESS Users Meeting, June 16, 17, Ithaca, New York.

Wells, S. A. and Dick, R. I. (1988) "Synchrotron Radiation Evaluation of Gravity Sedimentation Effects Prior to Dewatering," Joint A.S.C.E.-C.S.C.E. National Conference on Environmental Engineering, July 13-15, Vancouver, B.C., Canada.

Wells, S. A. (1988) "Two-Phase Flow Modeling in One-Dimension," Computational Fluid Dynamics Group, Portland State University, October 7, Portland, Oregon.

Wells, S. A. (1989) "Validity of Water Quality Models as a Basis for Management," Water Quality Issues Forum, OTAK Inc., March 24, Beaverton, Oregon.

Wells, S. A. and Dick, R. I. (1989) "Mathematical Modeling of Compressible Cake Filtration," A.S.C.E. National Conference on Environmental Engineering, July 10-12, Austin, Texas.

Wells, S. A. (1990) "Winter Cooling Effects on Wastewater Treatment Plant Exposed Units," Environmental Sciences and Resources Ph.D. Program Seminar Series, February 15, Portland, Oregon.

Wells, S. A. (1990) "Determination of Sludge Properties for Modeling Compressible Cake Filtration from Specific Resistance Tests," A.S.C.E. National Environmental Engineering Conference, July 8-11, Washington, D.C.

Wells, S. A. and Sivakumaran, K. (1990) "Two-Dimensional Modeling of Dewatering in a Belt-Filter Press," A.S.C.E. National Environmental Engineering Conference, July 8-11, Washington, D. C.

Wells, S. A. (1990) "Surface and Groundwater," St. John's Landfill Closure Workshop, METRO, Solid Waste Department, September 26, Portland, Oregon.

Wells, S. A. (1991) "Computer Modeling of Hydrodynamics and Water Quality in the Columbia Slough," Western Oregon State College, February 27, Monmouth, Oregon.

Wells, S. A. (1991) "Hydrology/Environmental Issues in the Smith-Bybee Lakes and Columbia Slough Areas," Portland State University, Urban Natural Resources Discussion Group, April 19, Portland, Oregon.

Wells, S. A. and Plaskett, J. H. (1991) "Modeling Compressible Cake Filtration with Uncertainty," American Filtration Society, 1991 National Meeting, October 21-23, College Park, Georgia.

Houck, M., and Wells, S.A. (1991) "Urban Environmental Problems," Portland State University, "Let Knowledge Serve the City," November 1, Portland, Oregon.

Wells, S. A. (1991) "Analysis of Management Alternatives for Water Quality Improvement in the Columbia Slough/Smith and Bybee Lake System," Pacific Northwest Pollution Control Association 1991 Conference, November 3-5, Portland, Oregon.

- Wells, S. A. (1992) "Two-Dimensional Flow Modeling in Compressible Cake Filtration," American Filtration Society Education Conference, January 11-17, Gainseville, Florida.
- Wells, S. A. (1992) "Management of the Columbia Slough System for Water Quality Control," moderator and speaker, Environment, Technology and Society: Issues in Sustainable Development Conference, Portland State University, May 4-6, Portland, Oregon.
- Wells, S. A. (1992) "Oregon Joint Graduate Schools in Environmental Engineering," Oregon Environmental Technology Association and the Oregon Association of Environmental Professionals Conference on Government Contracting and Marketing Opportunities, June 17, Wilsonville, Oregon.
- Wells, S. A. (1992) "Getting a Professional Education in Hazardous Materials Management," moderator and speaker, Hazardous Waste Materials Management Conference, September 15, 16, Portland, Oregon.
- Wells, S. A. (1992) "Educational Opportunities within the Oregon Joint Graduate Schools of Engineering - Environmental Engineering," moderator and speaker, OJGSE User's Meeting, October 2, Portland State University, Portland, Oregon.
- Wells, S. A. (1993) "Fluid/Particle Separation Dynamics," American Filtration Society Frank Tiller Fluid-Particle Separation Education Meeting, January 6-10, Reno, Nevada.
- Wells, S. A. (1993) "Managing the Columbia Slough System for Water Quality Control," Environmental Sciences and Resources Ph.D. Program Seminar Series, February 25, Portland, Oregon.
- Wells, S. A. (1993) "Using Water Quality Models as a Basis for Managing Water Quality Standards and Guidelines," given to State of Oregon, Department of Environmental Quality, Water Quality Group and EQC Commission, April 20, Portland, Oregon.
- Wells, S. A. and Dick, R. I. (1993) "Permeability, Liquid and Solid Velocity, and Effective Stress Variations in Compressible Cake Filtration," American Filtration Society National Meeting, May 3-6, Chicago, Illinois.
- Koch, R. and Wells, S. A. (1993) "Modeling the Tualatin River," 1993 Jim Vomocil Water Quality Conference "Management of Over Utilized Streams: Lessons from the Tualatin Watershed," Oregon State University, November 3-4, Corvallis, Oregon. [invited paper]
- Berger, C., Knutson, M., and Wells, S. (1993) "Modeling the Tualatin River System for Water Quality Improvement," Pacific Northwest Pollution Control Association Annual Meeting, Sea-Tac, November 15-17, Seattle, Washington.
- Berger, C. and Wells, S. (1994) "Water Quality Modeling of the Lower Columbia Slough," Annual Pacific Estuarine Research Society Meeting, May 5-7, Hatfield Marine Science Center, Newport, Oregon.
- Wells, S. A. (1995) "Hydrologic and Water Quality Modeling of the Columbia Slough," Columbia Slough Watershed Council Meeting, January 18, Portland, Oregon.
- Wells, S. A. (1995) "Management of the Water Quality of the North Slough Adjacent to the St. John's Landfill," First Annual Pacific Northwest Water Issues and 1995 Pacific Northwest/Oceania Conference, February 27,28, Portland, Oregon.
- Wells, S. A. and Berger, C.(1995) "Management of the Water Quality of the Upper and Lower Columbia Slough System," First Annual Pacific Northwest Water Issues and 1995 Pacific Northwest/Oceania Conference, February 27,28, Portland, Oregon.
- Karl, J. and Wells, S. A. (1995) "Modeling Gravity Sedimentation in One Dimension," American Filtration and Separations Society National Conference, April 23-25, Nashville, Tennessee.
- Berger, C. and Wells, S. A. (1995) "Water Quality Management of the Tualatin River, Oregon," ASCE Water Resources and Hydraulics Specialty Conference, August 13-15, San Antonio, Texas.
- Wells, S. A. and Berger, C. J. (1995) "Management Strategies to Improve Water Quality in the Tualatin River, Oregon," 1995 NCASI West Coast Regional Meeting, September 27-28, 1995, Portland, Oregon.
- Wells, S. A. (1995) "Environmental Impact of Chernobyl on Ukraine," PSU Weekend Conference, October 28, Portland, Oregon.
- Wells, S. A. (1996) "Modeling Cake Filtration in a Plate-and-Frame Press," National AFS Conference, April 17, Valley Forge, Pa.
- Wells, S. A. (1996) "University-Industry Cooperation in Solid-Liquid Separation Process Modeling," National AFS Conference, April 17, Valley Forge, Pa.
- Wells, S. A.; Berger, C.; and Abrams, M. (1996) "Winter Storm Event Impacts on Dissolved Oxygen Levels in the Columbia Slough System," Second Annual Pacific Northwest Water Issues Conference: The Flood of 1996, October 7,8, Portland, Oregon.

- Wells, S. and Berger, C. (1996) "Modeling Winter Dissolved Oxygen Depletion Incidents in the Columbia Slough," Pacific Northwest Pollution Control Association Conference, November 3-6, Boise, Idaho.
- Wells, S. (1997) "Airport Deicing and the Columbia Slough," ESR Seminar Series, Portland State University, January 23, Portland, Oregon.
- Nakasone, M. and Wells, S. A. (1997) "Water Quality Modeling of Wahiawa Reservoir and Its Role in the Central Oahu Wastewater Reclamation Plan," 19th Annual Hawaii Water Environment Association Conference, February 14,15, Honolulu, Hawaii.
- Wells, S. A. (1997) "Modeling a Plate-and-Frame Press," National AFS Society Conference, April 28-May 1, Minneapolis, Mn.
- Berger, C. J. and Wells, S. A. (1997) "Hydrodynamic Modeling of Impact of Culvert Modifications in the Columbia Slough," American Water Resources Association Conference, October 20-22, San Diego, Ca.
- Wells, S. A. and Savage, G. (1998) "Gravity Drainage During and Prior to Cake Filtration," National AFS Society Conference, May 4-6, St. Louis, Mo.
- Wells, S. A. (1998) "Modeling the Columbia Slough System," invited seminar Waterways Experiments Station, Corps of Engineers, June 8, Vicksburg, MS.
- Wells, S. A. (1998) "Modeling the Lower Snake River," invited seminar Idaho Power Company workshop on the Snake River System, August 19, Boise, Id.
- Wells, S. A. (1998) "The CE-QUAL-W2 Version 3 River Basin Model," seminar CE-QUAL-W2 workshop, Portland State University, September 11, Portland, Or.
- Wells, S. A. (1998) "Modeling the Columbia Slough System," invited seminar Oregon Graduate Institute, October 2, Beaverton, Or.
- Wells, S. A. and Berger C. (1998) "River Basin Modeling with CE-QUAL-W2 Version 3," Pacific Northwest Water Pollution Control Federation Conference, October 26,27, Portland, Or.
- Makinia, J., Wells, S. A., Crawford, D., and Kulbik, M. (1998) "Application of Mathematical Modeling and Computer Simulation for Solving Water Quality Problems," Fourth International Symposium and Exhibition on Environmental Contamination in Central and Eastern Europe Warsaw '98, September 15-17, Warsaw, Poland.
- Wells, S. A. and Berger, C. (1998) "Water Quality Impacts of Urban Stormwater Runoff from the Portland International Airport on the Columbia Slough," invited seminar for the Gdanska Fundacja Wody Conference entitled "Rainwater Management Law and Formal Requirements, Technical Possibilities," Oct 27-29, Gdansk, Poland.
- Wells, S. A. (1998) "River Basin Modeling," Gdansk Polytechnic University, Department of Environmental Engineering, invited seminar, October 26, Gdansk, Poland.
- Wells, S. A. (1999) "Analytical Cake Filtration Modeling," American Filtrations and Separations Society, National Conference, April 6-9, Boston, MA.
- Schwarz, T. and Wells, S. (1999) "Storm Water Particle Removal using Cross-Flow Filtration and Sedimentation," American Filtrations and Separations Society, National Conference, April 6-9, Boston, MA.
- Wells, S. A. (1999) "River Basin Modeling Using CE-QUAL-W2," International Water Resources Engineering Conference, ASCE, Aug.8-11, Seattle, Wa.
- Berger, C. and Wells, S. (1999) "Macrophyte Modeling in the Columbia Slough," International Water Resources Engineering Conference, ASCE, Aug.8-11, Seattle, Wa.
- Makinia, J., Wells, S. A. (1999). "Improvements in Modelling Dissolved Oxygen in Activated Sludge Systems." 8th IAWQ Conference on Design, Operation and Economics of Large Wastewater Treatment Plants, 6-9 September 1999, Budapest, Hungary.
- Wells, S. A. (2000) "Historical Modeling and Evaluation of Brownlee Reservoir Water Quality," invited speaker to the Expert Forum for Nutrient and Algal Processes in Reservoirs and Streams Brownlee Reservoir and the Lower Snake River, Boise, ID, January 27, 2000.
- Wells, S. A. (2000) "Variation of Constitutive Model Formulation on Analytical Cake Filtration Models," National American Filtrations and Separations Society Conference, Myrtle Beach, SC, March 14-17.
- Wells, S. A. (2000) "The Columbia Slough System Environmental Challenges," invited seminar, Linfield College, April 12, McMinnville, OR.
- Wells, S. A. (2000) "New Developments in River Basin Modeling," invited seminar, USGS Water Resources Division offices, April 24, Portland, OR.
- Wells, S. A. (2000) "Hydrodynamic and Water Quality River Basin Modeling Using CE-QUAL-W2 Version 3," EnviroSoft 2000 Conference, June 27-30, Bilbao, Spain.

Wells, S. A. (2000) "CE-QUAL-W2 Version 3: Hydrodynamic and Water Quality River Basin Modeling," HydroInformatics 2000, July 17-22, Iowa City, IA.

Harrison, J., Myers, R., Wells, S. (2000) "Visualizing Water Quality Processes in Brownlee Reservoir Located on the Snake River between Idaho and Oregon," North American Lakes Management Society National Conference, Nov. 8-10, Miami, FL.

Wells, S. A. (2001) "Hydrodynamic and Water Quality River Basin Modeling Using CE-QUAL-W2 Version 3," invited seminar, Department of Civil and Environmental Engineering, Technion University, January 22, Haifa, Israel.

Wells, S. A. (2001) "Hydrodynamic and Water Quality River Basin Modeling of the Bull Run Watershed," invited seminar, Swiss Federal Institute of Environmental Science and Engineering, February 19, Lucerne, Switzerland.

Wells, S. A. (2001) "Hydrodynamic and Water Quality River Basin Modeling Using CE-QUAL-W2 Version 3," invited seminar, Department of Water Resources, Israel Oceanographic and Limnological Research Institute, March 25, Tiberias, Lake Kinneret, Israel.

Wells, S. A. (2001) "Hydrodynamic and Water Quality Modeling with Application to Estuary-River Systems," invited seminar, Kishon River Water Authority, May 29, Haifa, Israel.

Wells, S. A. (2001) "Hydrodynamic and Water Quality Modeling with Application to the Kishon River-Estuary," invited seminar, Kishon River Water Authority, July 3 Haifa, Israel.

Wells, S. A. (2001) "Hydrodynamic and Water Quality Modeling with Application to the Dead Sea," invited seminar, Israel Geological Survey, July 10, Jerusalem, Israel.

Annear, R. and Wells, S. (2002) "The Bull Run Reservoir River System Model," Research and Extension Regional Water Quality Conference 2002, February 21, Vancouver, Washington.

Wells, S. (2002) "Validation of the CE-QUAL-W2 Version 3 River Basin Hydrodynamic and Water Quality Model," HydroInformatics 2002, IAHR, Cardiff, England.

Wells, S. (2002) "Basis of the CE-QUAL-W2 Version 3 River Basin Hydrodynamic and Water Quality Model," 2nd Federal InterAgency Hydrologic Modeling Conference, Las Vegas, July 28-Aug 1, 2002.

Annear, R. and Wells, S. (2002) "The Bull Run River – Reservoir System Model," 2nd Federal InterAgency Hydrologic Modeling Conference, Las Vegas, July 28-Aug 1, 2002.

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

Wells, S. A. and Annear, R. A. (2002) "River Basin Modeling Using Ce-Qual-W2 Version 3: The Bull Run River-Reservoir System Model," 4th International Conference on Reservoir Limnology and Water Quality, Ceske Budejovice, Czech Republic, August 12-16, 2002.

Wells, S. A. and Cole, T. M. (2002) "TMDLS: Statistical Correlations or Mechanistic Modeling?" National TMDL Science and Policy Conference, Phoenix, AR, November 13-16, 2002.

Wells, S. A. (2003) "CE-QUAL-W2: State of the Art in River Basin Modeling," Shanghai Environmental Protection Bureau, Shanghai, China, March 21, 2003.

Wells, S. A. (2003) "CE-QUAL-W2: State of the Art in River Basin Modeling; Research Directions; and TMDLs in the USA," Sichuan University, State Key Laboratory in Hydraulics of High-Speed Flows, Chengdu, China, March 24, 2003.

Wells, S. A. (2003) "CE-QUAL-W2: State of the Art in River Basin Modeling for Lake Roosevelt," Lake Roosevelt Forum, Spokane, WA, April 20, 2003.

Annear, R. and Wells, S. (2003) "Modeling Streambed Heating in Shallow Streams," American Institute of Hydrology Annual meeting, Atlanta, GA, October 19-22, 2003.

Annear, R., Berger, C. and Wells, S. (2003) "Willamette River System Temperature Waste Load Allocation Model," Pacific Northwest Regional Water Quality Program, The Role of TMDL Implementation in Watershed Restoration, Stevenson, WA, October 29-30.

Wells, S. A. and McKillip, M. (2004) "Modeling Lake Roosevelt," invited seminar for Lake Roosevelt Forum 2004, Spokane, WA, Nov. 14,15, 2004.

Wells, S. (2004) "Modeling the Dead Sea, Israel-Jordan," invited seminar at the USGS, Portland, OR, December 7, 2004.

Wells, S. A. (2005) "Use and Misuse of Computer Models in Water Disputes," invited seminar American Bar Association 23rd Annual Water Law Conference, San Diego, CA, February 24,25, 2005.

- Wells, S. A. and Bashkatov, D. (2005) "Modeling and evaluation of temperature dynamics in a wastewater treatment plant," EWRI 2005 World Water and Environmental Resources Congress, Anchorage Alaska, May 15-19, 2005.
- McKillip, M. and Wells, S. A. (2006) "Modeling Lake Roosevelt," invited seminar for Lake Roosevelt Forum 2006, Spokane, WA, March 2006.
- McKillip, M. and Wells, S. (2006) "Hydrodynamic, water quality and fish bioenergetics modeling in Lake Roosevelt Washington USA using CE-QUAL-W2," 5th International Conference on Reservoir Limnology and Water Quality, Brno, Czech Republic, August 27-September 2, 2006.
- Wells, S. (2007) "Revisiting the Columbia Slough – uncovering low dissolved oxygen levels in the winter from airport deicing chemicals," invited seminar to the PSU ESR winter seminar series, January 26, 2007.
- Wells, S. (2007) "CE-QUAL-W2: Past, present, and future," invited seminar, Meeting of Northwest Water Quality Modelers (NWMOD), Hood River, Oregon, May 8-9, 2007.
- Wells, S. (2007) "Modeling Fish Dynamics in Lake Roosevelt, WA," invited seminar, Hebrew University, Jerusalem, Israel, December 7, 2007.
- Wells, S. (2008) "River Basin Modeling using CE-QUAL-W2," invited seminar, Geologic Survey of Israel, Jerusalem, March 6, 2008.
- Wells, S. (2009) "Modeling the Spokane River system," Stakeholders meeting on the Spokane River TMDL, Spokane, WA February, 19, 2009.
- Wells, S. (2009) "Updates on Modeling the Spokane River system," Stakeholders meeting on the Spokane River TMDL, Spokane, WA March 25, 2009.
- Wells, S. (2009) "Fish bioenergetics models coupled with water quality and hydrodynamic models of surface water bodies," invited seminar, American Fisheries Society, Albuquerque, NM, May 4, 2009.
- Wells, S. (2009) "Use and abuse of water quality and hydrodynamic models of surface water bodies," invited seminar, American Fisheries Society, Albuquerque, NM, May 4, 2009.
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