CURRICULUM VITAE
ANDREW P. KRUZIC

EDUCATION:

B.S. Civil Engineering, Loyola University of Los Angeles, May 1975.
M.S. Sanitary Engineering, University of California, Berkeley, June 1976.
Ph.D. Environmental Engineering, University of California, Davis, June 1984.

RESEARCH AND TEACHING EXPERIENCE:

Sep. 1994 - Present Associate Professor of Civil Engineering at the University of Texas at Arlington. Current research is focused on control of corrosion and biofilm in large raw water transmission pipelines. Recent research investigated the impact of several factors on chloramine decay rates in water distribution systems including assimilable organic carbon concentrations. We develop a streamlined method for measuring AOC using flow cytometry.

Jan. 1988 - Aug. 1994 Assistant Professor of Civil Engineering at the University of Texas at Arlington. Dr. Kruzic developed new graduate courses on the topics of water quality modeling, hazardous waste remediation and fate of contaminants in natural systems. Research topics included lime stabilization of biosolids, nutrient removal in activated sludge systems, nitrogen removal in natural systems, and modeling of reverse osmosis systems.

Jan. 1984 - Jul. 1985 Alexander von Humboldt Fellow at the Technical University, Hamburg-Harburg. Dr. Kruzic's research under the fellowship was targeted at improving the nitrogen removal efficiency of single sludge nitrification-denitrification systems. He investigated several unconventional operational schemes and developed an interesting new process incorporating selective ion exchange of ammonium into the activated sludge process.

Apr. 1983 - Dec. 1983 Post Graduate Research Engineer at the University of California, Davis. The main objective of this research work was to provide EPA with a statistical summary of nitrifying plant performance including measurements of reliability, stability, and variability for use in the development of effluent standards.

Jan. 1981 - Mar. 1983 Research Assistant at the University of California, Davis. Dr. Kruzic's doctoral research established the primary nitrogen removal mechanisms in overland flow systems and demonstrated how these mechanisms were affected by operational parameters.

PROFESSIONAL EXPERIENCE:

Jan. 1996 – Present Engineering consultant to several local engineering firms on various projects including a biological nutrient removal activated sludge system for Bangkok, Thailand, and an overland flow system for a tannery/slaughterhouse in the Texas panhandle. Dr. Kruzic has also worked with a consulting firm in San Salvador, El Salvador, Biotec S.A. de C.V., in the development of design recommendations for industrial waste treatment systems in El Salvador. Through his relationship with the principles of Biotec he has presented two workshops (1997 and 1999) in San Salvador on domestic and industrial waste treatment. Most recently, as a consultant to a major energy producing company, he investigated methods for treating "frac return water" and "produced water" from gas wells for potential recycling. He is also the author of one of chapters in an US EPA Design Manual, Constructed Wetlands Treatment of Municipal Wastewaters, and the lead author of Chapter 13 Aquatic Natural Treatment Systems in the soon to be released latest edition of the WEF Manual of Practice - Biological and Chemical Systems for Nutrient Removal.

Sep. 1985 - Dec. 1987 Consulting Engineer with Nolte and Associates, Sacramento, CA. Dr. Kruzic was the lead design engineer of wastewater facilities for a prison in northern California which uses biological nitrification - denitrification and chemical phosphorus removal by direct filtration prior to wetlands treatment and rapid infiltration disposal in an environmentally sensitive area. Other work included several facility planning reports and writing major portions of a U.S.EPA design manual on constructed wetlands and aquatic plant systems for treating municipal wastewater.

Jul. 1976 - Sep. 1979 Sanitary Engineer, Reedy Creek Utilities Co., Walt Disney World, Florida. Reedy Creek Utilities Co. is responsible for all utilities associated with the Walt Disney World complex (43 square miles). Dr. Kruzic performed an extensive solid waste management study and a wastewater treatment plant expansion study preparing for a major expansion (EPCOT) of the complex. Additionally, he was responsible for the design and engineering aspects of the development of a $650,000 multi-sponsor (including EPA and DOE) demonstration wastewater treatment project using water hyacinths.

PROFESSIONAL REGISTRATION:

Registered Civil Engineer, California, No. C 029362

PROFESSIONAL SOCIETIES

Member, Water Environment Federation

REFEREED JOURNAL PUBLICATIONS

Kruzic, A. and J. Kreissl, "Natural Treatment and Onsite Process," *Wat. Env. Res.*, 81(10), 2009.

Kruzic, A. and S. K. Liehr, "Natural Treatment and Onsite Process," *Wat. Env. Res.*, 80(10), 2008.

Liehr, S. K. and A. Kruzic, "Natural Treatment and Onsite Process," *Wat. Env. Res.*, 79(10), 2007.

Liehr, S. K. and A. Kruzic, "Natural Treatment and Onsite Process," *Wat. Env. Res.*, 78(10), 2006.

McFarland, A. M. S., L. M. Hauck, and A. P. Kruzic, "Phosphorus Reductions in Runoff and Soils from Land-Applied Dairy Effluent Using Chemical Amendments," *Texas Journal of Agriculture and Natural Resources*, 2003

Ley, A. V., R. B. Timmons, and A. P. Kruzic, "Surface Transport of Common Gases in Plasma Polymerized Allyl Alcohol Membranes." *Journal of Membrane Science,* 2003.

Puppala, A.J., Viyanant, C., Kruzic, A., and Perrin, L., "Evaluation of A Modified Sulfate Determination Method for Cohesive Soils," *ASTM Geotechnical Testing Journal*, 2002.

Kruzic, A. P., "Natural Treatment and On-site Processes," *Wat. Env. Res.*, 69(4), 1997.

Kruzic, A. P. and K. D. White, "Natural Treatment and On-site Processes," *Wat. Env. Res.*, 68(4), 1996.

Kruzic, A.P., "Natural Systems," *Wat. Env. Res.*, 66(4), 1994.

Wei, C., W. Lin, Z. Zainal, N. E. Williams, K. Zhu, A. P. Kruzic, R. L. Smith, and K. Rajeshwar, "Bactericidal Activity of TiO_2 Photocatalysts in Aqueous Media: Towards a Solar-Assisted Water Disinfection System," *Environ. Sci. Technol.* 1994.

Ford, D. A., A. P. Kruzic, and R. L. Doneker, "Using GLEAMS to Evaluate the Agricultural Waste Application Rule-Based Decision Support (AWARDS) Computer Program," *Wat. Sci. Tech.*, 28(3-5), 1993.

Kruzic, A. P. and E. D. Schroeder, "Nitrogen Removal in the Overland Flow Wastewater Treatment Process - Removal Mechanisms," *J. Water Pollut. Control Fed.*, 62(7), 1990.

OTHER RECENT PUBLICATIONS AND PRESENTATIONS:

Lien, C. and A. P. Kruzic, "The Role of Activated Sludge in an Actiflo® System," Proceedings of the 79th Annual Water Environment Federation Technical Exhibition andConference, Dallas, Texas, 2006.

Kruzic, A and T. Noack, "Effects of Coagulants, Mixing Time and Mixing Energy on Phosphorus Removal by Coagulation/Flocculation of Dairy Lagoon Wastewater," Poster Presentation at 2001 SERA-IEG 17 Annual Meeting, State College, Pennsylvania, July 2001.

Kruzic, A., Chapter 5, Vegetated Submerged Bed Systems, in EPA Manual, Constructed Wetlands Treatment of Municipal Wastewaters, EPA/625/R-99/010.

Govind, S. and A. Kruzic, Synchronous Distance Education via the Internet, American Society for Engineering Education Gulf-Southwest Section 2000 Annual Conference, Las Cruces, New Mexico, April 2000.

Szymkowiak, V. and A. Kruzic, "Optimizing Flocculator Power Input in Water Treatment Plants," Proceedings Texas Section American Society of Civil Engineers, Fall Meeting, Midland, Texas, 1999.

Meintser, S., A. Kruzic, and H. Tang, "Attached Growth on Clinoptilolite for Enhanced Nitrogen Removal in a Septic Tank Leachfield System," Proceedings of the Water Environment Federation 71th Annual Conference and Exposition, Orlando, Florida, 1998.

Kruzic, A., S. Meintser, and K. Rhodes, "Use of Clinoptilolite for Ammonia Removal from a Dairy Lagoon Wastewater," Proceedings of the Water Environment Federation 70th Annual Conference and Exposition, Chicago, Illinois, 1997.

Kruzic, A. P., L. M. Hauck and J. L. White, "Comparison of Overland Flow with Conventional and Innovative Constructed Wetlands for Treating a Dairy Lagoon Wastewater," Proceedings of the Second National Workshop, Constructed Wetlands for Animal Waste Management, Fort Worth, Texas, 1996.

FUNDED RESEARCH ACTIVITIES

TRWD Pipeline Internal Corrosion and Biofilm Control Study, Phase 2, Tarrant Regional Water District, 3/11 – 8/12, $198,387

TRWD Pipeline Internal Corrosion and Biofilm Control Study, Phase 1, Tarrant Regional Water District, 5/10 – 12/10, $52,176

Investigation of Factors Affecting Chloramine Stability in the City of Arlington's Water Distribution System," City of Arlington, $3,500

"Investigation of the Sources and Nature of the Unusual Blue-Green Colored Water and White Powder Found in a Storm Water Drainage Channel Near Interstate 20," City of Arlington, 5/03-12/03, $13,616

"Investigations of Phosphorus Reduction in Dairy By-Products using Chemical Amendments," UTA subcontract to Tarleton State University, 9/00-8/01 $25,000.

“Investigation of Enhanced High Rate Clarification at the Village Creek Wastewater Treatment Plant,” Camp, Dresser, and McKee, Inc., 9/98-3/99, $9,970.

“Comparison of Overland Flow with Constructed Wetlands for Treating a Dairy Lagoon Wastewater,” Advanced Technology Program, 1/96-12/97, $89,200.