

NAME

Theodore G. Cleveland

DATE OF BIRTH

11 November 1959

CITIZENSHIP

United States of America

RESEARCH INTERESTS

Hydrologic, Hydraulic, and Contaminant Transport Modeling
Water Resource Systems Optimization

EDUCATION

Ph.D. Civil Engineering, University of California, Los Angeles, 1989.

M.S. Civil Engineering, University of California, Los Angeles., 1987.

B.S. Environmental Resources Engineering, Humboldt State University, Arcata CA, 1986.

EXPERIENCE

Associate Professor, 2008-present; Department of Civil and Environmental Engineering, Texas Tech University. I am responsible for developing and teaching courses to undergraduate and graduate students in hydrologic and hydraulic analysis and design, and in the fundamentals of engineering examination preparation. I am also responsible for developing and executing an externally-funded research program.

Associate Professor, 1990-2008; Department of Civil and Environmental Engineering, University of Houston. I was responsible for developing and teaching courses to undergraduate and graduate students covering environmental engineering, computing, engineering mechanics, and groundwater and surface water hydrology. I was also responsible for developing and executing an externally-funded research program, which I did successfully, executing work exceeding \$1.7M over the course of 18 years of academic life. I also advised hundreds of undergraduate students and oversaw the research work and thesis preparation of over a dozen master's students and 3 Ph.D. students.

Hydrogeologist, 1989-1990; CH2M-HILL, Emeryville, California. I provided technical support for different remediation strategies to comply with the North Hollywood NPL record of decision. I also performed limited field work in support of permitting activities on a large landfill in Pittsburg, CA.

TEACHING EXPERIENCE

Courses Taught at Texas Tech University

CE 3372 Water Systems Engineering
CE 4101 Applications of Engineering Fundamentals
CE 4311 Problem Based Learning — Steel (with A. Morse & S. Senadheera)
CE 4312 Problem Based Learning — Concrete (with A. Morse & S. Senadheera)
CE 5333 Adv. Topics — Couplas (F2008)
CE 5333 Adv. Topics — Markov Models (S2009)
CE 5333 Uncertainty, Dimensional Analysis, and Similarity (SU2009)
CE 5333 Data Analysis for Civil and Environmental Engineers (SU2010)
CE 5361 Surface Water Hydrology
CE 5362 Surface Water Modeling

Courses Taught at the University of Houston

CIVE 7397 Advanced Topics in Hydrology - Statistical methods in Water Resources
CIVE 7332 Groundwater Contaminant Transport (Originated)

CIVE 6361 Groundwater Hydrology (Taught on Television in 1994)¹
CIVE 4311 Civil Engineering Design and Professional Practice
CIVE 3331 Environmental Engineering (Originated for new curriculum 2000)
CIVE 3434 Fluid Mechanics and Hydraulic Engineering
CIVE 3334 Hydraulic Engineering
CIVE 2330 Engineering Mechanics – Statics
ENGI 1331 Computers in Engineering (Revised as part of 4 person team)
CIVE 1331 Computing for Engineers (Originated)

Teaching Grants

Curriculum Development Grant “Enhance Effectiveness of Engineering Courses Presented by Instructional Television, \$1,000, 7/94-8/94. University of Houston, Off-Campus Institutes.

1992 Association of Groundwater Scientists and Engineers, Faculty Development Grant to attend the National Groundwater Association Short Course ‘Introduction to Geochemistry’

¹Course name changed to Engineering Hydrology in 2003

Summary of Teaching Evaluations

Texas Tech University

At Texas Tech University the two principal criteria of importance are an effectiveness rating of the instructor, and an knowledge rating of the topic. Unrated or missing values are coded as "–".

Table 1. Teaching Evaluation Summary — Texas Tech University

Semester	Course	Title	Instr. Rating	Subject Rating	Responses
F 2008	CE 5361	Surface Water Hydrology	4.00	4.43	7
F 2008	CE 5333	Adv. Topics – Copulas	–	–	2
S 2009	CE 5362	Surface Water Modeling	4.75	5.00	4
S 2009	CE 5333	Adv. Topics – Markov Models	–	–	2
SU 2009	CE 5333	Similarity, Dimensional Analysis, Uncertainty	–	–	5
F 2009	CE 3372	Water Systems Engineering	3.13	4.26	30
F 2009	CE 4101	App. of Eng. Fundamentals	3.89	3.89	36
S 2010	CE 3372	Water Systems Engineering	3.16	4.05	57
S 2010	CE 4101	App. of Eng. Fundamentals	4.04	4.19	57
S 2010	CE 4312	Concrete Struc. Serv. Learn.	4.17	4.17	6
SU 2010	CE 5333	Statistical Methods in Water Resources	–	–	7
F 2010	CE 3372	Water Systems Engineering	–	–	45
F 2010	CE 4101	App. of Eng. Fundamentals	–	–	35
F 2010	CE 4312	Problem Based Learning — Steel Structures.	–	–	8
S 2011	CE 3372	Water Systems Engineering	–	–	73
S 2011	CE 4101	App. of Eng. Fundamentals	–	–	55
S 2011	CE 4312	Concrete Struc. Serv. Learn.	–	–	12
S 2011	CE 5362	Surface Water Modeling	–	–	8

University of Houston

At the University of Houston the principal performance criteria of importance in faculty evaluation was the response to the evaluation form question 'Based on what I have seen in this class, the instructor is an effective Engineering educator' (0-4 scale, 4 is best). Missing values are coded as "-" ratios for these are estimated.

Table 2. Teaching Evaluation Summary — University of Houston

Semester (1)	Course (2)	Title (3)	Section Avg. (4)	Level Avg. (5)	Ratio (4/5)
Fall 1990	CIVE 6361	GroundwaterHydrology	2.72	3.30	0.82
Spring 1991	CIVE 3334	Hydraulic Engineering	2.25	3.08	0.73
Fall 1991	CIVE 6361	GroundwaterHydrology	3.18	3.26	0.97
Spring 1992	CIVE 3334	Hydraulic Engineering	3.69	3.01	1.22
Spring 1992	CIVE 7397	Contaminant Transport	3.43	3.27	1.04
Sum. 1992	CIVE 6361	GroundwaterHydrology	3.04	3.30	0.92
Fall 1992	CIVE 6361	GroundwaterHydrology	2.81	3.20	0.87
Spring 1993	CIVE 2330	Mechanics-I (Statics)	3.42	3.11	1.09
Spring 1993	CIVE 7397	Contaminant Transport	3.31	3.51	0.94
Fall 1993	ENGI 1331	Computers in Engineering	1.62	2.64	0.61
Fall 1993	CIVE 6361	GroundwaterHydrology	3.00	3.09	0.97
Spring 1994	CIVE 7332	Contaminant Transport	3.16	3.40	0.92
Fall 1994	ENGI 1331	Computers in Engineering	3.06	2.89	1.06
Fall 1994	CIVE 6361	GroundwaterHydrology	3.19	3.03	1.05
Spring 1995	CIVE 7332	Contaminant Transport	4.00	3.48	1.15
Fall 1995	CIVE 1331	Computing for Engineers	3.26	3.18	1.02
Fall 1995	CIVE 6361	GroundwaterHydrology	3.20	3.33	0.96
Spring 1996	CIVE 7332	Contaminant Transport	4.00	3.32	1.20
Fall 1996	CIVE 3434	Fluid Mechanics and Hydraulics	3.51	3.20	1.09
Fall 1996	CIVE 6361	GroundwaterHydrology	3.67	3.29	1.11
Spring 1997	CIVE 7332	Contaminant Transport	3.09	3.51	0.88
Fall 1997	CIVE 3434	Fluid Mechanics and Hydraulics	3.04	2.89	1.05
Fall 1997	CIVE 6361	GroundwaterHydrology	3.20	3.15	1.01

Table 1. Teaching Evaluation Summary – Continued.

Semester (1)	Course (2)	Title (3)	Section Avg. (4)	Level Avg. (5)	Ratio (4/5)
Spring 1998	CIVE 7332	Contaminant Transport	4.00	3.62	1.10
Fall 1998	CIVE 6361	GroundwaterHydrology	3.25	3.29	0.98
Fall 1998	CIVE 2330	Mechanics-I (Statics)	3.43	3.18	1.07
Spring 1999	CIVE 7332	Contaminant Transport	3.47	3.49	0.99
Fall 1999	CIVE 6361	GroundwaterHydrology	3.60	3.25	1.10
Fall 1999	CIVE 2330	Mechanics-I (Statics)	3.48	3.13	1.11
Spring 2000	CIVE1331	Computing for Engineers	3.55	3.26	1.08
Spring 2000	CIVE 1331	Computing for Engineers	3.38	3.26	1.03
Fall 2000	CIVE 3331	Environmental Engineering	3.44	3.15	1.09
Spring 2001	CIVE 3331	Environmental Engineering	3.32	3.07	1.08
Spring 2001	CIVE 7332	Contaminant Transport	3.56	3.60	0.98
Fall 2001	CIVE 3331	Environmental Engineering	3.56	2.87	1.24
Fall 2001	CIVE 6361	GroundwaterHydrology	3.58	3.31	1.08
Spring 2002	CIVE 3331	Environmental Engineering	3.60	2.97	1.21
Spring 2002	CIVE 7332	Contaminant Transport	3.33	3.50	0.95
Spring 2002	CIVE 6111	Seminar, Env. Eng.	3.54	3.39	1.04
Fall 2002	CIVE 6361	GroundwaterHydrology	3.17	3.20	0.99
Fall 2002	CIVE 3331	Environmental Engineering	3.42	3.06	1.12
Spring 2003	CIVE 3331	Environmental Engineering	–	–	1.0
Fall 2003	CIVE 6361	Engineering Hydrology	3.24	3.37	0.96
Fall 2003	CIVE 1331	Computing for Engineers	2.78	3.33	0.83
Spring 2004	CIVE 3331	Environmental Engineering	3.36	3.17	1.13
Fall 2004	CIVE 6361	Engineering Hydrology	3.24	3.34	0.97
Fall 2004	CIVE 6111	Seminar, Env. Eng.	3.43	3.34	1.02
Spring 2005	CIVE 3331	Environmental Engineering	3.58	3.21	1.11
Fall 2005	CIVE 1331	Computing for Engineers	3.00	3.24	0.92
Fall 2005	CIVE 3434	Fluid Mechanics and Hydraulics	3.46	3.10	1.12
Spring 2006	CIVE 6361	Engineering Hydrology	3.25	3.46	0.94
Fall 2006	CIVE 7397	Advanced Hydrology	3.34	3.30	1.01
Spring 2007	CIVE 4311	CE Design and Prof. Practice	3.62	3.37	1.07
Spring 2007	CIVE 6361	Engineering Hydrology	3.69	3.36	1.09
Spring 2007	CIVE 6111	Seminar, Env. Eng.	–	–	1.0
Fall 2007	CIVE 1331	Computing for Engineers	4.57	4.22	1.08
Fall 2007	CIVE 4311	CE Design and Prof. Practice	4.39	3.98	1.10
Spring 2008	CIVE 6361	Engineering Hydrology	–	–	–

SUPERVISION OF RESEARCH

Ph.D. Students — Texas Tech University

Asquith 5/2011

Dissertation Title: Univariate Distributional Analysis with L-moment Statistics using **R**

Herrmann (in progress)

Dissertation Title: Steepness of Flood Frequency Curves: Implications for Hydraulic Design

M.S. Students - Thesis — Texas Tech University

L. DaCosta (expected graduation – 5/2011)

Thesis title: Predicting Type-H Drop Inlet Performance using SWMM.

W. Barnes (expected graduation – 8/2011)

Thesis title: Mobilization of Solids at Low Water Crossings — Semi-Quantitative Physical Model Experiments and Comparisons with Field Observations.

H. Murphy (expected graduation – 8/2012)

Thesis title: Turbidity Control for Construction Site Runoff — Field Monitoring to Evaluate Effectiveness of Selected BMPs.

E. Nordstrom graduated – 12/2009)²

Thesis title: Distributed Modeling Using HEC-HMS: A Continuum of Water Droplets.

M. Wingfield, graduated 12/08³

Thesis title: Evaluating the Effect that Watershed Subdivision and Watershed Parameter Selection have on Modeling Results

none to date.

none to date.

²Student was in-progress and advised by Dr. D. B. Thompson prior to my arrival at Texas Tech.

³Student was in-progress and advised by Dr. D. B. Thompson prior to my arrival at Texas Tech.

Ph.D. Students — University of Houston

D. Culp. graduated 12/2010⁴

Dissertation Title: Evaluation of the Effectiveness of Storm Water Ponds Designed for Storm Water Quality in the Upper Texas Gulf Coast Region.

Xin, He, graduated 12-2007

Dissertation Title: Unit Hydrograph Estimation Using Digital Drainage Model For Applicable Texas Watersheds.

H. Liu, graduated 6-1999

Dissertation title: Bare Soil Erosion Dependence on Soil and Rainfall Properties

L. Chuang, graduated 8-1998

Dissertation title: A Guidance System for Choosing Analytical Contaminant Transport Models

M.S. Students - Thesis — University of Houston

Shiva Sunder, graduated 12-2008

Thesis title: Evaluation of Basin Development Factor for Estimating Urban Watershed Response.

Thuy Luong, graduated 5-2008

Thesis title: Subdivision of Watersheds for Modeling.

Abhijeet Bobde, graduated 12-2007

Thesis title: Hydraulic Performance Evaluation of Grate Inlets.

Samuel Orozco graduated 8-2006

Thesis title: Evaluation of the effectiveness of short circuiting criterion for dry detention basins design using ideal flow modeling.

Xin He graduated 8-2004

Thesis title: Comparison of Gamma, Rayleigh, Weibull and NRCS Models with Observed Runoff Data for Central Texas Small Watersheds.

Ioana Lazarescu graduated 8-2003

Thesis title: Correlation of geometric properties of small watersheds in Central Texas

⁴Served as adjunct professor and committee chairman. Adjunct appointment terminated, 31 DEC 2010

with observed Instantaneous Unit Hydrographs.

K. Joggalandala graduated 5-2003

Thesis title: Determination of Instantaneous Unit Hydrographs for Central Texas.

P. Joshi graduated 8-2002

Thesis title: Internet-based lake water quality and fish habitat projection model.

E. Miller graduated 5-2002

Thesis title: Effects of Electrode Contamination in a Regenerative Fuel Cell System

H. Zhu, graduated 12-1998

Thesis title: Water Quality Model of Country Club Bayou

S. Varghese, graduated 8-1998

Thesis title: Evaluation of Kenaf as a Sorbent for Oil Spill Cleanup

E. Lee, graduated 12-1998

Thesis title: Kenaf as a Polyelectrolyte Substitute in Sludge Dewatering

K. Theodoridis, graduated 8-1998

Thesis title: Evaluation of Impact from Storm Water Discharges Associated with Road Construction Activities on Receiving Streams

B. K. Varghese., graduated 8-1997

Thesis title: Agricultural Fibers as Body-Feed, Precoat, and Deep Bed Filter Media.

H. Liu, graduated 8-1997 (Chem Engr - Joint supervision with Dr. F.M. Tiller)

Thesis title: Analysis of Fibrous Beds for Oil-Water Separation

Q. Gang, graduated 6-1997

Thesis title: A Synthetic Rainfall Generation Model for Application to Highway Construction Storm Water Pollution Planning.

J. P. Muscara, graduated 6-1997

Thesis title: Field Evaluation of Selected Highway Construction Temporary Sediment Controls for Storm Water Pollution Prevention Plans

P.G. Anderson, graduated 8-1997

Thesis title: Hydraulic Parameter Estimation in an Axis-Symmetric Layered Aquifer System using a Simulation-Optimization Model.

D. Yuan, graduated 12-1995

Thesis title: Accurate Approximations for One-, Two-, and Three- Dimensional Groundwater Mass Transport From an Exponentially Decaying Contaminant Source.

S. Garg, graduated 6-1994.

Thesis title: Evaluation of Fullerene Waste as a Carbonaceous Adsorbent

L. Chuang, graduated 12-1993

Thesis title: Optimal Aquifer Management for Controlling Land Subsidence

M.S. Students - Project Reports — University of Houston

C. Swallow, graduated 05-2004

Project Report: A Rainfall-Runoff Database of 106 Paired Locations in Harris County, Texas.

G. Young, graduated 12-2003

Project Report: Examination of low impact development design strategies applied to a fictitious land development in Harris Co., Texas

S. E. King, graduated 12-1997

Project Report: Solids transport from a highway construction site.

M. Linn, graduated 12-1995

Project Report : Incorporation of Texas Risk Reduction Rules into a Spreadsheet Based Decision Support Model.

K. B. Goodwin, graduated 12-1994

Project Report: Determination of Rainfall Induced Infiltration into the Newport Sanitary Sewer System.

J. Vanderwater, graduated 12-1996

Project Report : Dynamic modeling of the Preliminary Treatment Works at the 69th Street Wastewater Facility, Houston, Texas.

B.S. Students - Project Reports — University of Houston

William Botkins(2007)

Project: SWWM Models of Hypothetical Watersheds in Harris County to generate regional guidance for small watershed development impacts.

Vanessa Aririguzo and Larissa DaCosta(2007)

Project: Scale model experiments to evaluate low water crossing vulnerability in areas of high-bed mobility.

Robert Pinder(2006)

Project: Harris County and City of Houston Stormwater Detention Basin ranking and sorting database.

Matthew Smith (2004)

Project: NASDC computer for Hydrologic Data Processing: Construction, Operations, and Maintenance Manual.

Monica Stiggins (2004)

Project : A Permit-by-Rule record keeping system: University of Houston Campus Units: Implementation Report.

Otis Dickinson and Kim Nguyen (2003)

Project: A Permit-by-Rule record keeping system: University of Houston Campus Units.

Beatrice Garcia Alcibar, 'Análisis Hidrológico de la Cuenca Colectora Keegan's Bayou, Houston, TX. (April, 2002); Tesis Profesional, Escuela de Ingeniería, Universidad La Salle, Mexico. DF. MEXICO (Hydrologic Analysis of the Keegan's Bayou Watershed in Houston Texas)

PUBLICATIONS

Referred Journal Publications

Herrmann, G.R., and Cleveland, T.G. 2010 "Moving Substrate in an Ephemeral Stream: Case Study in Bridge Survival" In *Transportation Research Record: Journal of the Transportation Research Board* No. 2201, Vol. 2, pp 3-9.

Dhakal, N., Fang, X., Asquith, W.H., Cleveland, T.G., Thompson, D.B. 2010 "Rate-based and Probabilistic Estimation of the Rational Runoff Coefficients " American Society of Civil Engineers, Journal of Irrigation and Drainage Engineering, IRENG-5913 *In review*

Dhakal, N., Fang, X., Cleveland, T.G., Thompson, D.B.; Asquith, W.H., Marzen, L.J. 2010 "Estimation of Runoff Coefficients for Texas Watersheds Using Land-Use

and Rainfall-Runoff Data” American Society of Civil Engineers, Journal of Irrigation and Drainage Engineering, IRENG-5913 *In review*

Fang, X., Thompson, D.B., Cleveland, T.G., Pradhan, P., and Malla, R. 2008 “Time of Concentration Estimated Using Watershed Parameters Determined by Automated and Manual Methods.” American Society of Civil Engineers, Journal of Irrigation and Drainage Engineering, Vol. 134, No. 2, pp 202-211.

Cleveland, T.G., Thompson, D.B., Fang, X., and He, X. 2008 “Synthesis of Unit Hydrographs from a Digital Elevation Model” American Society of Civil Engineers, Journal of Irrigation and Drainage Engineering, Vol. 134, No. 2, pp 212-221.

Heitmuller, F.T., Asquith, W. H., Cleveland, T.G., Fang, X. , and Thompson, D.B. 2007. “Estimation of main channel length from basin length for selected small watersheds in Texas using 10- and 30-meter digital elevation models.” Southwestern Geographer, Vol 10. , pp 23 - 35.

Fang, X., Thompson, D.B., Cleveland, T.G., and Pradhan, P. 2007 “Variations of Time of Concentration Estimates Using the NRCS Velocity Method” American Society of Civil Engineers, Journal of Irrigation and Drainage Engineering, Vol. 133, No. 4, pp 314-322.

Cleveland, T.G., and A. Fashokun, 2006. “Construction-Associated Solids Loads with a Temporary Sediment Control BMP.” American Society of Civil Engineers, Journal of Construction Engineering and Management, Vol. 132, No. 10, pp 1122-1125.

Cleveland, T.G., X. He, W.H. Asquith, X. Fang, and D.B. Thompson, 2006. “Instantaneous Unit Hydrograph Selection for Rainfall-Runoff Modeling of Small Watersheds in North and South Central Texas.” American Society of Civil Engineers, Journal of Irrigation and Drainage Engineering, Vol. 132, No. 5, pp 479-485.

Tiller, F.M., T.G. Cleveland, and R. Lu, 1999. “Pumping slurries forming highly compactable cakes.” Industrial and Engineering Chemistry Research., 38, (3), pp 590-595.

Lui, H., Cleveland, T.G., and KH Wang, 1999. “Erosion Dependence on Geotechnical Properties of Soil” Journal of American Water Resources Association., 35(1), pp 167-176.

Wang, KH., Cleveland, T.G., Towsley, C., and D. Umrigar, 1998. “Head loss at manholes in surcharged sewer systems.” Journal of American Water Resources Association, 34(6), pp 1391-1400.

Varghese, B.K, and T.G. Cleveland, 1998. "Kenaf as a Deep Bed Filter Medium to Remove Oil from Oil-in-Water Emulsions." *Journal of Separation Science and Technology*, 33 (14), pp. 2197-2220.

Parikh, A. G., Schulze, L. J. H., Chen, J-G., and Cleveland, T.G., 1997. "Maximum acceptable weight of an asymmetrical lift for postal sacks without handles." *International Journal of Industrial Ergonomics*. 19(1), pp. 1-7.

Wang, KH, Cleveland, T.G., Fitzgerald, S. , and X. Ren, 1996. "Hydrodynamic Flow Model at the Confluence of Two Streams." *American Society of Civil Engineers, Journal of Engineering Mechanics*, Vol. 122, No. 10, pp 994-1002.

Cleveland, T.G. , and S. Garg, 1996. "Feasibility of Fullerene Waste as a Carbonaceous Adsorbent," *Journal of Environmental Engineering, American Society of Civil Engineers*, Vol. 122, No. 3, pp 235-238.

Cleveland, T.G., 1996. "Type-Curve Analysis using a Computer Spreadsheet," *Ground Water*, Vol. 34, No. 3.

Bravo,R., Rogers, J.R., and T.G. Cleveland, 1996. "Modeling Groundwater Flow using Flux Boundary Conditions." *Water Resources Bulletin*, Vol 32., No. 1, pp 39-46.

Cleveland, T.G., and Garg, S., 1995. "Fullerene Waste as an Adsorbent," *Carbon.*, Vol. 33, No. 3, pp 335-338.

Cleveland, T.G., 1994. Recovery Performance for Vertical and Horizontal Wells Using Semi-Analytical Simulation, *Ground Water*, Vol. 32, No. 1, pp 103-107.

Cleveland, T.G., R. Bravo, and J.R. Rogers, 1992. Specific Storage and Hydraulic Conductivities Using Extensometer and Hydrograph Data, *Ground Water*, Vol. 30, No. 5, pp 701-708.

Cleveland, T.G. and W. W-G. Yeh, 1991. Optimal Configuration and Scheduling of a Groundwater Tracer Test, *Journal of Water Resources Planning and Management, American Society of Civil Engineers*, Vol. 117, No. 1, pp 37-51.

Cleveland, T.G. and W. W-G. Yeh, 1990. Sampling Network Design for Transport Parameter Identification, *Journal of Water Resources Planning and Management, American Society of Civil Engineers*, Vol. 116, No. 6, pp 764-782

Referred Reports

Rowney, A.C., Cleveland, T.G., Gerth, J.G. 2011. Information Technology in 2050. In *Toward a Sustainable Water Future: Visions for 2050*, Eds. Grayman, Loucks, and Saito, American Society of Civil Engineers, pp 292-304.

Asquith, W.H., Roussel, M.C., Cleveland, T.G., Fang, Xing, and Thompson, D.B., 2006. Statistical characteristics of storm interevent time, depth, and duration for eastern New Mexico, Oklahoma, and Texas. U.S. Geological Survey Professional paper 1725, 299p. ISBN 1-411-31041-1

Williams-Sether, T., Asquith, W.H., Thompson, D.B., Cleveland, T.G., and X. Fang. 2004. Empirical, Dimensionless, Cumulative-Rainfall Hyetographs for Texas. U.S. Geological Survey Scientific Investigations Report 2004-5075, 138p.

Asquith, W.H. Thomson, D.B., Cleveland, T.G., and X. Fang. 2004. Synthesis of Rainfall and Runoff Data Used for Texas Department of Transportation Research Projects 0-4193 and 0-4194. U.S. Geological Survey Open-File Report 2004-1035, 1050 p.

Referred Conference Proceedings

Cleveland, T.G., He, X., Fang, X., Thompson, D.B. 2006. "Instantaneous Unit Hydrographs for Small Watersheds in Texas using Digital Elevation Data and Particle Tracking" in *Costal Hydrology and Processes*, Singh, V.P., and Xu, Y.J. eds. Water Resources Publications, Highlands Ranch, CO. pp 3-14

Cleveland, T.G., He, X., Fang, X., Thompson, D.B. 2006. "Regressions Relating Watershed Physical Characteristics to Unit Hydrograph Parameters for Rainfall-Runoff Modeling in Central Texas" *Costal Hydrology and Processes*, Singh, V.P., and Xu, Y.J. eds. Water Resources Publications, Highlands Ranch, CO. pp 465-478.

Fang, X., Pradhan, P., Malla, R., Cleveland, T.G., and Thompson, D.B. 2006. "Estimating Time of Concentration for Texas Watersheds" *Costal Hydrology and Processes*, Singh, V.P., and Xu, Y.J. eds. Water Resources Publications, Highlands Ranch, CO. pp 465-478.

Cleveland, T.G., W.G. Rixey, F.M. Tiller, B.K. Varghese, H. Liu, 1999. "Kenaf as an Absorbent, Body-Feed Filter Aid, and Coalescence Medium" in *Kenaf Properties*,

Processing and Products, Sellers and Reichert, Eds. pp 455-470.

Cleveland, T.G., Tiller, F.M., and J.B. Lee, 1996. "Theory of Filtration of Highly Compactable Biosolids," *Water Science and Technology*, International Association on Water Quality, Vol 34:3-4, pp 299-306.

Bravo, R., J.R. Rogers, and T.G. Cleveland, 1991. "Analysis of Groundwater Level Fluctuations and Borehole Extensometer Data from the Baytown Area." *Land Subsidence*, International Association of Hydrological Sciences, Publication No. 200, Washington, DC., pp 655-666.

Bravo, R., J.R. Rogers, and T.G. Cleveland, 1991. "Determination of Compressible Soil Properties Required to Model Subsidence in Houston, Texas." *Land Subsidence*, International Association of Hydrological Sciences, Publication No. 200, Washington, DC., pp 667-676.

Bravo, R., J.R. Rogers, and T.G. Cleveland, 1991. "A Three-Dimensional Finite Difference Model of Ground Water Flow and Land Subsidence in Houston, Texas." *Land Subsidence*, International Association of Hydrological Sciences, Publication No. 200, Washington, DC., pp 15-16.

Conference Proceedings – Full Manuscripts

Dhakal, N., Fang, X., Cleveland, T.G., Thompson, D.B. 2010 "Revisiting the Modified Rational Method" *in* Proceedings of ASCE World Environmental and Water Resources Congress, ASCE-EWRI, May 16-20, Providence, RI. ISBN pp

Herrmann, G. R., and T.G. Cleveland, 2009. "Generation of simulated monthly rainfall accumulations and associated monthly evaporation depths for use in the management of small reservoirs and water harvesting for Central Texas." *Proceedings of American Institute of Hydrology*, 2009 Annual Water Symposium, August 30-September 2, 2009.

Herrmann, G. R., and T.G. Cleveland, 2009. "Interaction of loss components, rational coefficients, and arid climate: a thought experiment." *Proceedings of American Institute of Hydrology*, 2009 Annual Water Symposium, August 30-September 2, 2009.

Cleveland, T.G., Thompson, T. Luong, S. 2009. "Watershed Subdivision for Modeling" *in* Proceedings of ASCE World Environmental and Water Resources Congress, ASCE-EWRI, May 17-21, Kansas City, MO. ISBN 0-7844-09??-? pp. 661

Cleveland, T.G., Thompson, D.B., Sunder, S. 2009. "Use of Basin Development Factor to Evaluate Urban Watershed Response" *in* World Environmental and Water Resources Congress, ASCE-EWRI, May 17-21, Kansas City, MO. 0-7844-0977-? pp. 161

Cleveland, T.G., Botkins, W., and Thompson, D.B., 2008, "Small Watershed Models : Hydrologic or Hydraulic?" *in* Proceedings of ASCE World Environmental and Water Resources Congress, May 12-16, 2008, Honolulu, HI., ISBN 0-7844-0976-3.

Cleveland, T.G. and Thompson, D.B., 2008. "Rainfall Intensity in Design" *in* Proceedings of ASCE World Environmental and Water Resources Congress, May 12-16, 2008, Honolulu, HI., ISBN 0-7844-0976-3.

Cleveland, T.G. , He, X., and Thompson, D.B., 2008. "Simple Rainfall Loss Models for Rainfall-Runoff Modeling" *in* Proceedings of ASCE World Environmental and Water Resources Congress, May 12-16, 2008, Honolulu, HI., ISBN 0-7844-0976-3.

Orozco, S, and Cleveland, T.G., 2007. "Evaluation of Travel Path Ratio as a Measure of Short-Circuiting Potential in Stormwater Quality Basins using Ideal Flow Modeling." *in* Proceedings of ASCE World Environmental and Water Resources Congress, May 15-19, 2007. ISBN 0-7844-0927-7.

Cleveland, T.G., He, X., Fang, X., and Thompson, D.B., 2007, "Unit Hydrographs for Small Watersheds in Texas using Particle Tracking." *in* Proceedings of ASCE World Environmental and Water Resources Congress, May 15-19, 2007. Tampa, Fl., ISBN 0-7844-0927-7.

Cleveland, T.G., Thompson, D.B., Fang, X., and He, X. 2007. "Synthesis of Unit Hydrographs from Digital Elevation Models." Proceedings of Texas Section Spring 2007 Meeting, Tyler, Texas.

Fang, X. , Prakash, K., Cleveland, T.G., Thompson, D.B., Pradhan, P., 2005. "Revisit of NRCS Unit Hydrograph Procedures" Proceedings of Texas Section Spring 2005 Meeting, Austin, Texas.

Cleveland, T.G., Thompson, D. ,Fang,X. 2003. "Instantaneous Unit Hydrographs for Central Texas" Proceedings of Texas Section Spring 2003 Meeting, Corpus Christi, Texas.

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Herrmann, G. R., and T.G. Cleveland, 2009. "Generation of simulated monthly rainfall accumulations and associated monthly evaporation depths for use in the management of small reservoirs and water harvesting for Central Texas." Presented at American Institute of Hydrology, 2009 Annual Water Symposium, August 30-September 2, 2009.

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Cleveland, T.G., and Asquith, W.H. 2007. "Unit Hydrograph Estimation for Texas Watersheds" HEC-HMS Users Conference - Current Trends & Applications. AAWRE, ASCE, Texas Floodplain Managers Association and Rice University February 27, 2007 (*Invited*)

Asquith, W.H., Roussel, M., Cleveland, T.G., Thompson, D.B., and Fang, X. "Statistical Characteristics of Storm Interevent Time, Depth and Duration for Eastern New Mexico, Oklahoma, and Texas" HEC-HMS Users Conference - Current Trends & Applications. AAWRE, ASCE, Texas Floodplain Managers Association and Rice University February 27, 2007 (*Invited*)

He, X., Cleveland, T.G. Thompson, D.B., and Fang, X. 2006. "Synthesis of Unit Hydrographs from Digital Elevation Models", American Geophysical Union, Fall Meeting, San Francisco, CA.

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⁵This presentation is identical to February 27 abstract and conference materials and is intentionally repeated in this list.

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Cleveland, T.G., Davis, J.L., Walsh, P., Glanton, T. 'Intervention Strategies to Improve Water Quality on Country Club Bayou.' Presented at the Spring Meeting of the Texas Section of the American Society of Civil Engineers, Austin, Texas. April 7, 2000.

T.G. Cleveland, and B.K. Varghese. "Kenaf as a Body-Feed Filter Aid," American Filtration and Separation Society, 11th Annual National Technical Conference, St. Louis, Missouri, May 1998.

Cleveland, T.G., and T. Glanton, 'Hydraulic Modeling of a Sewer Flow Split Structure to Evaluate Proposed Changes" Texas Section, American Society of Civil Engineers, Annual Spring Meeting, April 1997.

Tiller, F.M., Cleveland, T.G., and J.B. Lee, "Theory of Filtration of Highly Compactable Biosolids," International Association on Water Quality, 18th Biennial International Conference, Singapore, June 1996.

Cleveland, T.G., Lee, J.B., Hayare, G., and F.M. Tiller, 1995. 'Pressure and Rate of Filtration", Water Environment Association of Texas, Annual Meeting, Fort Worth, TX.

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Cleveland, T.G., Rogers, J.R., and K.S. Sheu, 1993. "Energy Management of Houston's Surface and Ground Water System", American Society of Civil Engineers, National Conference on Water Resources Planning and Management, Seattle, WA.

Cleveland, T.G., Nishikawa, T. , and R.T. Hanson, 1993. "Inversion of Flowmeter Data in Layered Aquifers using Gradient Optimization", American Geophysical Union, Fall Meeting, San Francisco, CA.

Wang, K.H., and Cleveland, T.G. 1992. "Numerical Modeling of the Flow Field at the Confluence of Buffalo Bayou and White Oak Bayou in Houston, Texas" invited speakers, Watershed and Drainage Technical Committee, Houston Branch, American Society of Civil Engineers.

Wang, K.H., Cleveland, T.G. , and S. Fitzgerald, 1991. "Numerical Modeling of the Flow Field at the Confluence of Buffalo Bayou and White Oak Bayou in Houston, Texas" Spring Meeting American Society of Civil Engineers, Texas Section, South Padre Island, TX.

Cleveland, T.G., 1990. "Sampling Design for Transport Parameters; an Identifiability Approach.", American Geophysical Union, Fall Meeting, San Francisco, CA.

Cleveland, T.G. and W. W-G Yeh, 1989. "Optimal Experimental Design for Transport Parameter Identification ", American Geophysical Union, Fall Meeting, San Francisco, CA.

Cleveland, T.G. and W. W-G Yeh, 1988. "Experimental Design for Transport Parameter Identification." American Geophysical Union, Fall Meeting, San Francisco, CA.

Seminar Presentations

Cleveland, T.G. 2007 "Design Guidance for Low Water Crossings in Areas of High Bed Mobility." Invited Seminar, Texas Tech University, September, 2007.

Cleveland, T.G. 2005. " Watershed Physical Characteristics and Unit Hydrograph Parameters for Rainfall-Runoff Modeling in Central Texas." Invited Seminar. Louisiana State University. March 2005.

Other

Cleveland, T.G., 2005. "Relating Watershed Physical Characteristics to Instantaneous Unit Hydrograph Parameters for Rainfall-Runoff Modeling." Presented to the American Society of Civil Engineers, Houston Branch, Houston, TX, June 21, 2005.

Cleveland, T.G., 2005. "Engineering Ethics." Presented at E.B. Cape Training Center, City of Houston, Houston, TX, March 24, and June 15, 2005.

Cleveland, T.G., Thompson, D.B., Asquith W.H., Roussel, M., Heitmuller, F., Wang, K-H, and X. Fang, 2005. 'Bed Mobility in Central Texas.' Presented to the Texas Department of Transportation, June 8, 2005.

Cleveland, T.G., 1997. "New Computational Tools for the Management of Surface and Ground Water." Presented at E.B. Cape Training Center, City of Houston, Houston, TX.

Cleveland, T.G., 1996. 'Intelligent Renewal of Urban Wastewater Systems.' Presented to the Water Environment Association of Texas, Houston Branch, Houston, TX.

Hogan, M.G., and T.G. Cleveland, 1995. 'Optimized Remediation Management Plan for Industrial Facilities with Multi-Media Contaminant Releases,' The Third International Symposium on In-Situ and On-Site Bioreclamation Symposium, Battelle Memorial Laboratories, San Diego, CA.

Cleveland, T.G., and S. Garg, 1994. 'Field Demonstration of Acoustically Enhanced Soil Washing System for In-Situ Treatment of Low Permeability Soils.' Priorities in Pollution Prevention, Annual Gulf Coast Environmental Conference, Gulf Coast Hazardous Substance Research Center, Beaumont, 1994. pp 162-163.

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RESEARCH

Research Funding

Total External Funding (1991-2010):\$4,613,204⁶

External Funding Cleveland Portion (2008-2010) \$722,899 ⁷

External Funding Cleveland Portion (1991-2008): \$1,579,634

Texas Tech University (September 2008 - 2010).

Hydraulic Performance of Staggered Barrel Culverts for Stream Crossings. Texas Department of Transportation. 9/2009-8/2012 \$120,000 (FY10); \$105,000 (FY11); \$ 20,000 (FY12) PI Consortium^{8 9}

Empirical Flow Parameters — A Tool for Hydraulic Model Validity Assessment. Texas Department of Transportation. 9/2010-8/2013 \$44,333 (FY11); \$45,433 (FY12); \$45,295 (FY13) PI Consortium

Preparing for EPA Effluent Limitation Guidelines. Texas Department of Transportation. 9/2010-8/2013 \$43,000 (FY11); \$56,500 (FY12); \$26,300 (FY13) Co-PI Consortium

TxDOT Strategic Research Program. Texas Department of Transportation. 1/2010 - 8/2011 \$40,000 (FY10);\$100,000 (FY11) Co-PI Consortium

Determination of an Effective Lower Bound of Watershed Slope for Traditional Hydrologic Methods. Texas Department of Transportation. 9/2008-8/2011 \$78,500 (FY09); \$ (FY10); \$(FY11) PI Consortium

Use of Rational and Modified Rational Method for TxDOT Hydraulic Design. Texas Department of Transportation. 9/2007-8/2010 \$146,000 PI Consortium. (includes transfer of support from UH).

Hydraulic Evaluation of Type-H Inlet Texas Department of Transportation. 9/2008-8/2009 \$138,300 Co-PI (includes transfer of support from UH).

University of Houston (September 1991 - August 2008).

⁶Total value all grants and contracts

⁷Product of total value and Cleveland assigned research credit generates this value

⁸PI = principal TTU investigator; Co-PI = duties divided among other TTU faculty

⁹Consortium = Consortium research with other institutions; only TTU figures are shown

Use of Rational and Modified Rational Method for TxDOT Hydraulic Design. Texas Department of Transportation 9/2007-8/2010 \$146,000 PI Consortium^{10 11}

Urban Stormwater Management Study Block B, Phase II Evaluation of Change from Undeveloped to Urban Conditions. Harris County Flood Control District 6/2007-5/2008 \$78,000 PI

Subdivision of Watersheds for Modeling Texas Department of Transportation 9/2006-8/2008 \$68,000 PI Consortium

Hydraulic Evaluation of Type-H Inlet Texas Department of Transportation 9/2006-8/2009 \$84,000 PI Consortium

Urban Stormwater Management Study Block A Phase I Harris County Flood Control District 1/2006-12/2006 \$24,000 PI

Harris County Best Management Practices Characterization Carter-Burgess Inc. 9/2005-11/2006 \$21,000 PI

Estimating Time Parameters of Direct Runoff and Unit Hydrographs for Texas Watersheds Texas Department of Transportation 9/2003 - 8/2005 \$68,396 PI Consortium

Guidance for Design in Areas of Extreme Bed Mobility Texas Department of Transportation 9/2005-8/2009 \$291,180 Co-PI (KH Wang) Consortium

Regional Characteristics of Unit Hydrographs Texas Department of Transportation 9/2000-8/2007 \$163,290 PI Consortium

Regional Characteristics of Storm Hyetographs Texas Department of Transportation 9/2000 - 8/2006 \$115,472 PI Consortium

Demonstration of Wireless Database System for Water Quality Management of Houston's Bayous. Department of Health and Human Services, City of Houston; U.S. EPA Empact Funds 1/2003-8/2003 \$20,000 PI

Internet and component-based modeling system for lake water quality and fish habitat projections Texas Higher Education Coordinating Board – ATP 1/2000 - 8/2002 \$45,600 PI Consortium

Investigation of Intervention Strategies to Improve Water Quality on Country Club Bayou. Montgomery Watson Americas, Inc. 1/1998-12/1999 \$56,479 PI

¹⁰PI = principal UH investigator; Co-PI = duties divided among other UH faculty

¹¹Consortium = Consortium research with other institutions; only UH figures are shown

Investigation of Intervention Strategies to Improve Water Quality on Country Club Bayou. Environmental Institute of Houston 1/1998-12/2000 \$12,600 PI

Computer Model to Investigate Operation Rules for a Wastewater Flow Splitter Wastewater Engineering, City of Houston 10/1996-12/1998 \$43,038 PI

Agricultural Based Filter-Aids to Produce Burnable Cakes for Hazardous and Non-Hazardous Solids Separation Texas Higher Education Coordinating Board – ATP 1/1996-8/1998 \$137,085 PI

Evaluation of the Impacts, Performance, and Costs of Storm Water Pollution Prevention Plans as Applied to Highway Construction Activities Texas Department of Transportation 9/1995-8/1998 \$350738 Co-PI (KH Wang)

Intelligent Renewal of Urban Wastewater Systems National Science Foundation 9/1995-8/1999 \$911,195 Co-PI (1 of 8).

Acquisition of Equipment for Upgrading the Analytical Support for the Environmental Engineering Program at the University of Houston National Science Foundation 11/1995-10/1997 \$900,000 Co-PI (1 of 6).

A Software Guidance System for Choosing Analytical Subsurface Fate and Transport Models Including a Library of Computer Solutions for the Analytical Models Gulf Coast Hazardous Substance Research Center 9/1997-1/1998 \$177,000 Co-PI (1 of 3).

Verification of a Hydrocarbon Leaching Model American Petroleum Institute 5/94-12/95 \$110,000 Co-PI (W.G. Rixey).

Physical Modeling to Determine Head Loss at Selected Surcharged Sewer Manholes. Greater Houston Wastewater Program/City of Houston 2/94-8/95 \$79,028 Co-PI (KH Wang)

Research into Production Cost Reduction by Energy Management of Houston's Surface and Ground Water Systems City of Houston 1/1993-8/1995 \$180,000 Co-PI (J.R. Rogers)

Systematic Inspection and Severity Ranking of a Municipal Sanitary Sewage Collection System Harris County Municipal Utility District(s) #19,#20 and #73 5/1992-6/1993 \$12,600 PI

Demonstration of Acoustically Enhanced Soil Washing System for In-situ Treatment of Low Permeability Soils Gulf Coast Hazardous Substance Research Center 5/1992-8/1994 \$45,000 PI

Field Demonstration and Quantification of a Hypothesized Facilitated Interfacial Transport Mechanism at Clay-Sand Interfaces in Natural Porous Media Houston Coastal Center 9/1991-6/1992 \$3,400 PI

A Three Dimensional Hydrodynamic Model of the Confluence of Buffalo Bayou and White Oak Bayou in Houston, Texas Harris County Flood Control District 10/1990-2/1992 \$61,200 Co-PI (KH Wang)

Research Awards

2004 John B. Hawley Award for Technical Paper of Outstanding Merit, Texas Section, American Society of Civil Engineers for the paper 'Instantaneous Unit Hydrographs for Central Texas.' (Co-recipient with Drs. D.B. Thompson and X. Fang)

2004 Outstanding Technical Paper of Session, Texas Section, American Society of Civil Engineers, for the paper 'Instantaneous Unit Hydrographs for Central Texas.'

1996 Cullen College of Engineering, Junior Faculty Research Excellence Award (sponsored by the Halliburton Foundation, Inc.)

1995 Texas Section Civil Engineering Paper Award, for the paper 'Head Loss at Manholes in Surcharged Sewers' (Co-recipient with Dr. K.H. Wang and Dr. Charles Towsley)

1991 John B. Hawley Award for Technical Paper of Outstanding Merit, Texas Section, American Society of Civil Engineers for the paper 'Numerical Modeling of the Flow Field at the Confluence of Buffalo Bayou and White Oak Bayou in Houston, Texas.' (Co-recipient with Dr. K.H. Wang and Mr. Steve Fitzgerald)

1991 Outstanding Technical Paper of Session, Texas Section, American Society of Civil Engineers, for the paper 'Numerical Modeling of the Flow Field at the Confluence of Buffalo Bayou and White Oak Bayou in Houston, Texas.' (Co-recipient with Dr. K.H. Wang and Mr. Steve Fitzgerald)

1991 Best of Session Paper by a Younger Member, Texas Section, American Society of Civil Engineers, for the paper 'Numerical Modeling of the Flow Field at the Confluence of Buffalo Bayou and White Oak Bayou in Houston, Texas.'

PROFESSIONAL ORGANIZATIONS AND SERVICE

Professional Organizations

American Geophysical Union
American Society of Civil Engineers
National Ground Water Association
Association of Environmental Engineering Professors
American Water Resources Association

Professional Service

Comittee and Editorial Activity UWRRC computation comittee UWRRC web comittee

Chen, Wu., Cleveland, T.G., and Holly S.H. Chen (Editors), 'Forever a Filterman', Anthology of Dr. Frank M. Tiller's Publications, Dow Chemical Company, 336 p.

Cleveland, T.G., 'Book Review ' Applied Contaminant Transport Modeling.' American Geophysical Union – EOS, November 1996.

Member, Urban Water Resources Research Council, American Society of Civil Engineers, Water Resources Planning and Management Division, 1996-present.

Symposium Chairman "Advances in Modeling in Water Resources", 1995 American Water Resources Association Annual National Conference and Symposium, Houston, Texas.

Cleveland, T.G. (Editor), 1995. 'Advances in the Development and Use of Models in Water Resources. Proceedings of AWRA's 31st Annual Conference and Symposis. American Water Resources Association, Herndon, Virginia, TPS-95-4, 322 p.

Associate Editor - "Drinking Water Almanac", American Water Works Association, Publishing Division. Duties shared with L. Bradley (Associate Editor) and J.M. Symons (Editor).

Chairman, Hydraulics Technical Committee, Texas Section, American Society of Civil Engineers, 1991-1993.

Corresponding Member, Systems Committee, American Society of Civil Engineers, Water Resources Planning and Management Division.

Service Awards

Professional Service to Students Award, Texas Section, American Society of Civil Engineers, 2000.

Certificate of Appreciation, American Water Resources Association, for service as Symposium Chairman, 1995.

Certificate of Appreciation, Texas Section, American Society of Civil Engineers, for 1993-1994 service as Hydraulics Technical Group Chairman.

Certificate of Appreciation, Houston Geological Society, for 1992 presentation, 'Principles of Contaminant Hydrology' a seminar for geologists retraining for careers in the environmental field.

Certificate of Appreciation, Ardis White Student Chapter of the American Society of Civil Engineers, 1992.

Certificate of Appreciation, Ardis White Student Chapter of the American Society of Civil Engineers, 1991.

Short Courses Presented/Organized

Cleveland, T.G., 2008. 'Engineering Ethics.' Presented at E.B. Cape Training Center, City of Houston, Houston, TX, March 26 and November 14.

Cleveland, T.G., 2007. 'Engineering Ethics.' Presented at E.B. Cape Training Center, City of Houston, Houston, TX, May 18 and November 7.

Cleveland, T.G., 2006. 'Engineering Ethics.' Presented at Harris County Flood Control District, Houston, TX, October 17.

Cleveland, T.G., 2006. 'Engineering Ethics.' Presented at E.B. Cape Training Center, City of Houston, Houston, TX, May 5 and November 1.

Cleveland, T.G., 2004 — 2007. 'FE Review - Statics, Dynamics, Mechanics of Materials, Materials Science, and Biology.' Cullen College of Engineering FE Review Series. Spring and Fall Semester.

Cleveland, T.G., 2005. 'Engineering Ethics.' Presented at E.B. Cape Training Center, City of Houston, Houston, TX, March 24, and June 15, 2005.

Cleveland, T.G., 2004. 'FE Review - Statics, Dynamics, Mechanics of Materials, and Materials Science.' Cullen College of Engineering FE Review Series. Spring and Fall Semester.

Seminar Leader, 2004 Houston Teachers Institute. 'Wild Habitats in the Urban Environment' (<http://www.uh.edu/hti/>)

Seminar Leader, 2002 Houston Teachers Institute. 'Drinking Water: Finding It; Making It Clean; Using It Wisely' (<http://www.uh.edu/hti/>)

Symposium and Short Course Co-Chairman 'American Filtration Society Sixth Annual Educational Symposium', 1997, Houston, Texas.(Co-Chair with Dr. Wu Chen, DOW Chemical).

'Stormwater Permitting', 1991, A short course organized with The Department of Civil and Environmental Engineering (Jerry R. Rogers), Espey Huston and Associates, and Vinson and Elkins to educate industrial compliance officers of changes in the NPDES regulations regarding stormwater discharges.

Paper Review

Water Resources Research, American Geophysical Union.

Irrigation and Drainage, American Society of Civil Engineers.

Hydraulic Engineering, American Society of Civil Engineers.

Environmental Engineering, American Society of Civil Engineers.

Water Resources Bulletin, American Water Resources Association.

Ground Water, National Ground Water Association.

Conference Sessions Chaired

Session Chairman, 'Highway and Construction Runoff.' 24th Annual Water Resources Planning and Management Conference, Houston, TX 1997.

Session Chairman, 'Hydraulics Technical Session', Spring Meeting, Texas Section, American Society of Civil Engineers, Corpus Christi, TX 1994.

Session Chairman, 'Hydraulics Technical Session', Fall Meeting, Texas Section, American Society of Civil Engineers, Fort Worth, TX 1993.

Session Chairman, 'Hydraulics Technical Session', Spring Meeting, Texas Section, American Society of Civil Engineers, Lufkin, TX 1993.

Session Chairman, 'Sediment and Contaminant Transport Control' Water Forum '92 American Society of Civil Engineers, Water Resources Planning and Management

Division Specialty Conference, Baltimore, MD. 1992.

Session Chairman, 'Ground Water Issues in the Management of Water Resources' American Water Resources Association, 27th Annual Conference, New Orleans, LA. 1991.

Other Activities Faculty Participant, American Society of Civi Engineers, Workshop of Student Chapter Leaders, January 9-10, 2009 , Denver, CO.

Special Awards Judge, Houston Engineering and Science Fair. 1991-2006.

Readers in the School' Jane Long Middle School, October 2002.

Proposal Review Panel Member, USEPA/SBIR Program, Stormwater and Arsenic Removal Technologies. 2002. Washington, D.C.

Proposal Review Panel Member, USDA/SBIR Program, Industrial Applications of Agricultural Products. 1998-2008. Washington, D.C.

Evaluator 1998 City of Houston Student Cooperative Education Program, April, 1998. Houston TX.

Proposal Review Panel member, NSF/EPA Partnership Program, Water and Watershed Panel, June 19-23, 1995. Washington, D.C.

Advisory Trustee, Galveston Bay Foundation, 1992-present

Mentor, Regan High School, 1992 "Superquest" project. Regan was one of ten high schools nation wide to win in the "Superquest" program - a program funded by the National Science Foundation, the U.S. Department of Education, Digital Equipment Corporation, and IBM.

Proposal Review Panel Member, Kansas Department of Energy EPsCOR project., November 19-20, 1992. Kansas City, KS.

CONSULTING ACTIVITIES

Cleveland, 2005. Expert opinion regarding flooding of automotive dealership during Tropical Storm Allison.

Cleveland, 1999. Expert opinion comparing likelihood of methane generation from a sanitary sewer system versus propane leakage as source of explosion in San Juan Puerto Rico.

Cleveland, 1996. Expert opinion regarding potential groundwater invasion into a landfill.

Cleveland, 1991. "Industrial Stormwater Permitting", Commissioned presentation to the Houston Contractor's Association.

Cleveland, 1990. "Analysis of Rainfall and Runoff for Houston, 1940-1990." Commissioned Study for the Houston Chronicle - Used to prepare a three part article: 'A Moveable Flood' by Jim Morris, Staff Reporter.

DEPARTMENT, COLLEGE, UNIVERSITY SERVICE

Department Service, Texas Tech University 2008 – present

Faculty Advisor, Texas Tech Chapter ,Chi-Epsilon ($\chi\epsilon$) Civil Engineering Honor Society 2008-present. Faculty Co-advisor (support role to lead advisor), Texas Tech Chapter, American Society of Civil Engineers (ASCE), 2008-present.

College Service, Texas Tech University 2008 – present

Academic Programs Committee, 2010-present.

University Service, Texas Tech University 2008 – present

Department Service, University of Houston 1990-2008

Program Director and Associate Chairman, Environmental Engineering Program, 1996-2004.

Director, University of Houston Public Works Institute, 1998-1999.

Departmental Representative, Texas Council of Universities Engaged in Transportation Research, 1996-1997.

Academic Advisor for Environmental Engineering Students. 1994-1996.

Planning Committee, 1990-1993.

Faculty Advisor, Ardis White Chapter, American Society of Civil Engineers, 1991-1994; 2006-2008.

College Service, University of Houston 1990-2008

College Recruiting Committee, 1994-1998.

Senator, Faculty Senate, 1998-2001

Senator, Faculty Senate, 2002-2004

University Service, University of Houston 1990-2008

Advisory Board, Environmental Institute of Houston 1998-2008

Advisory Board, Houston Teachers Institute 2002-2008

Committee on the Status of Women, 1996-2004

President's Commission on the Status of Women, 2000-2002

LICENSES AND SPECIAL SKILLS

Licensed Professional Engineer, State of Texas No. 86653.

FCC Private Mobile Radio Service License

NAUI Open Water SCUBA Certification.