

CURRICULUM VITAE

February 2011

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EDUCATION

Ph. D.	Environmental Engineering	Rice University	1989
M. S.	Environmental Engineering	Rice University	1985
B. E.	Civil Engineering	American University of Beirut	1982

PROFESSIONAL EXPERIENCE

Jan 2010 – Present	Director, Environmental Engineering Graduate Program
2007 – Present	Professor, Civil and Environmental Engineering, Cullen College of Engineering, University of Houston, Houston, TX
Fall 2007	Interim Associate Dean for Undergraduates
2001 – 2007	Associate Professor, Civil and Environmental Engineering, Cullen College of Engineering, University of Houston, Houston, TX
1997 – 2001	Assistant Professor, Civil and Environmental Engineering, Cullen College of Engineering, University of Houston, Houston, TX
1997 – 1998	Adjunct Assistant Professor, Environmental Science and Engineering, Rice University, Houston, TX
1994 – 1997	Executive Director, Energy and Environmental Systems Institute, Rice University, Houston, TX
1994 – 1997	Faculty Fellow, Environmental Science and Engineering, Rice University, Houston, TX
1989 – 1994	Research Associate, Environmental Science and Engineering, Rice University, Houston, TX

TEACHING

Courses Taught:

CIVE 1331	Computing for Engineers
CIVE 4311	Civil Engineering Design and Professional Practice
CIVE 4312	Civil Engineering Design Project (Environmental Section)
CIVE 6361	Engineering Hydrology
CIVE 7332	Groundwater Contaminant Transport
CIVE 7342	Engineering Geographic Information Systems
CIVE 7397	Hazardous Waste Management and Risk Assessment

SUPERVISION OF RESEARCH

Current Graduate Students

PhD

Nathan Howell	Expected December 2012
Dan Burleson	Expected May 2013

MS

Emil Helfer	Expected May 2011
Megan Hochstedler	Expected May 2011
Bora Toran	Expected May 2011
Jaejin Kim	Expected May 2011
Taft Tucker	Expected May 2012

Graduated Masters and PhD Students

PhD

Anu Desai	December 2010
Tina Petersen	August 2006
Oscar Correa	May 2006
Meng Ling	September 2003
Loren Hopkins	May 1998

MS

Norma Moreno	August 2010
Lisa Grecho	May 2010
Yaa Amoah	August 2009
Fouad Khan	December 2007
Gian Villareal	December 2006
Tricia Rittaler	August 2005
Yeoson Choi	August 2005
Sarah Hausman	March 2005
Ashish Bagga	August 2003
Tina Peterson	May 2003
Gretchen Shorr	February 2003
Paul LaWare	December 2001
Fariba Mehdizadeh	May 2001
Charelle Webb	December 2000
Monica Suarez	February 2000
Mike Morrow	December 1999
Suzanne Brock	June 1998
Kevin Appling	May 1996

Postdoctoral Researchers

Divagar Lakshmanan	August 2007 – Present
Stephanie Fiorenza	2002-2003
Loren Hopkins	2002-2004

NSF RETs (Research Experience for Teachers)

Kelly Mizell, Biology, Aquatic Science and Chemistry, Sam Rayburn High School, Summer 2004 and 2005

Nghia Le, Chemistry, Booker T. Washington High School, Summer 2006

Rima Alexander, Science Specialist, O'Donnel Middle School, Summer 2007

Renee O'Lear, Biology and Bioengineering, Bellaire High School, Summer 2008

Myla van Duyn, Pre-AP Biology, Davis High School, Summer 2008 and 2009

Gay Morris, Yes Preparatory, Summer 2009.

Nataliya Bovkun, Houston Academy for International Studies, and *Jennifer Dietz*, Galena Park High School, Summer 2010.

NSF REUs (Research Experience for Undergraduates)

Sean Carbonaro, Summer 2009

Rebecca Jimenez, Summer 2009

Karina Navarro, Summer 2008

Zan van Brunt, Summer 2008

Reba Scott, Summer 2008

Hannah Wilson, Summer 2007

High School Student Researchers

Maddie Langdon, Summer 2010

Zac VanBrunt, Summer 2007

FUNDED RESEARCH

STEP Forward: STEM Talent Expansion Program for Women and Under Represented Group Recruitment and Retention Development at the University of Houston, National Science Foundation, co-P.I., w. S. Long, F. Claydon, and K. Zerda, 2009-2014.

NUE: Development of the NanoEngineering Minor Option (NEMO) at the University of Houston, National Science Foundation, co-P.I., w. D. Litvinov, F. Claydon, S. Long, and P. Sharma, 2009-2010.

New, GK-12 Program at the University of Houston: Innovations in Nanotechnology and Nanosciences using a Knowledge, Applications, Research, and Technology (KART) Approach, National Science Foundation, co-P.I., w. P. Sharma, F. Claydon, S. Long, and G. Chiappetta, 2009-2013.

Hurricane Ike: Lessons Learned and Steps for the Future Critical Infrastructure Sustainability and Resilience, Houston Endowment, P. I., w. T. Colbert, Architecture, UH (Joint Project with B. Bedient and J. Blackburn at Rice University), 2009-2011.

REU Civil Infrastructure Engineering, National Science Foundation, co-P.I., w. Y.L. Mo, Wang, Hsu, and Vipulanandan, 2008-2010.

Total Maximum Daily Load Analysis and Load Allocations of Indicator Bacteria in Dickinson Bayou Tidal (Segment 1103) and Associated Tributaries (Segments 1103A, 1103B, 1103C, and

1103D), TCEQ/EPA, P.I., w. CDM, Inc., 2007-2011.

Historical Data Analysis and Refinement of Dissolved Oxygen Modeling of Dickinson Bayou, TCEQ/EPA, P.I., w. CDM, Inc., 2009-2011.

Watersheds for the Future: Houston 2035, Houston Endowment, P. I., (Joint Project with B. Bedient at Rice University), 2008-2010.

Total Maximum Daily Loads for PCBs (Polychlorinated Bi-phenyls) in the Houston Ship Channel System, TCEQ/EPA, P. I., w. PES, Inc., 2006-2010.

Survey of PCBs and Dioxin in the Galveston Bay System, TCEQ/EPA, P. I., 80% credit, w. PES, Inc., 2009-2011.

Total Maximum Daily Loads for Dioxin in the Houston Ship Channel System, TCEQ/EPA, P.I., w. PES, Inc., 2005-2011.

Total Maximum Daily Loads for Indicator Bacteria in the Houston Metropolitan Area, TCEQ/EPA, P. I., w. PES, Inc., 2005-2010.

Study on the Effectiveness of BMPs to Control Bacteria Indicator Loads, TCEQ/EPA, P. I., 2005-2009.

Total Maximum Daily Loads for Indicator Bacteria in the Clear Creek Watershed, TCEQ/EPA, P.I., w. PES, Inc., 2004-2008.

Total Maximum Daily Loads for Fecal Pathogens in Buffalo Bayou and Whiteoak Bayou, TCEQ/EPA, P. I., w. CDM, Inc., 2005-2009.

Total Maximum Daily Loads for Dissolved Oxygen in Dickinson Bayou, TCEQ/EPA, P. I., w. Dynamic Solutions, Inc., 2006-2008.

Total Maximum Daily Loads for Fecal Pathogens, TCEQ/EPA, P. I., w. PBSJ, Inc. and TAMU-Corpus Christi, 2003-2005.

Total Maximum Daily Loads for Dioxins, TCEQ/EPA, P. I., w. PBSJ, Inc., PES, Inc., and TAMUG, 2003-2005.

Developing a Guidance Manual for Modeling Natural Attenuation at Field Sites, Air Force Center for Environmental Excellence, co-P. I., w. GSI, Inc., 2000-2003.

Total Maximum Daily Loads for Fecal Pathogens, Texas Natural Resource and Conservation Commission, P. I., w. PBSJ, Inc., 2002-2003.

Multi-Purpose Water Management Technology for the Texas-Mexico Border, Texas Advanced Technology Program, P. I., Consortium Proposal w. Rice, UT Brownsville, A&M Int'l, and A&M Kingsville, 2000-2003.

Evaluating Source Grouting and ORC for Remediating MTBE Sites, Gulf Coast Hazardous Substance Research Center, P. I., w. D. Roberts and W. Rixey, 2000-2003.

Characterizing the Intrinsic Remediation of MTBE at Field Sites, Gulf Coast Hazardous Substance Research Center, P.I., w. W. Rixey, 2000-2004.

Total Maximum Daily Loads for Dioxins and Fecal Pathogens, Texas Natural Resource and Conservation Commission, P.I., w. PBSJ, Inc., and PES, Inc., 2000-2004.

Transport, Fate and Risk Implications of Environmentally Acceptable Endpoint Decisions, Gulf Coast Hazardous Substance Research Center, co-P.I., w. B. Rixey, 1999-2003.

Modeling Air Pollution and Human Exposure Using CAMx and REHEX-II, Environmental Institute of Houston, P.I., 1999-2000.

Developing an Integrated Methodology for Designing Long Term Monitoring Plans (LTMPs), Air Force Center for Environmental Excellence, co-P.I., w. GSI, Inc., 1998-2004.

Developing Human Exposure Estimates for Indoor/Outdoor Air Pollution in Houston, Environmental Institute of Houston, P. I., 1998-1999.

GIS and Remotely Sensed Mapping of Changes in Coastal Environments, Houston Coastal Center, P.I., 1998-1999.

Intrinsic Bioremediation of Mixed Fuel/Solvent Plumes at Petroleum and Petrochemical Gulf Coast Sites, Texas Hazardous Waste Research Center, P.I., w. D. Roberts, 1998-2001.

Estimating First-Order Decay Coefficients for Petroleum Hydrocarbon Biodegradation, American Petroleum Institute, co-P.I., w. GSI, Inc., 1998.

Natural Attenuation of Chlorinated Compounds, Union Carbide Corporation, P.I., 1996-2000.

Risk Assessment Analysis at PST Sites, KEI Consultants, P.I., 1996-1997.

Quantifying Natural Solvent Degradation in the Presence of Fuels and Its Potential Enhancement During Bioventing and Bioremediation, Environmental Protection Agency, P.I., w. J. Hughes (Rice U.), 1995-1997.

BIOPLUME Modeling of Made 2 Site, US Air Force, P. I., 1995-96.

IBM Sur Grant, IBM Corporation, P. I., 1995.

OASIS Japan: Phase II, Japan Research Institute, P.I., 1994-95.

Land Use/Land Cover Surveying and Assessment in the Laguna Madre, Texas General Land Office, P.I., w. P. Bedient and P. Harcombe (Rice U.), 1994-1995.

Characterization of Oil and Gas Waste Disposal Practices and Assessment of Treatment Costs, Department of Energy, co-P.I., w. P. Bedient and M. Wiesner (Rice U.), 1992-1994.

Subsurface Monitoring Data for Assessing In-Situ Biodegradation of Aromatic Hydrocarbons (BTEX) in Groundwater, American Petroleum Institute, co-P.I., w. P. Bedient (Rice U.), 1991-1994.

OASIS Japan: Phase I, Japan Research Institute, co-P.I., w. P. Bedient (Rice U.), 1993-1994.

Characterization of Non-Point Sources and Loadings to Galveston Bay, Galveston Bay National Estuary Program, co-P.I., w. P. Bedient and C. Newell (Rice U.), 1991-1992.

Decision Support System for Evaluating Remediation Performance with Interactive Pump and Treat Simulator, Environmental Protection Agency, co-P.I., with P. Bedient (Rice U.), 1992-1994.

Systems Analysis/Aquifer Assimilative Capacity, Environmental Protection Agency, co-P.I., w. C. Ward (Rice U.), 1992-1996.

The State of the Bay: A Characterization of the Galveston Bay Ecosystem, Galveston Bay National Estuary Program, co-P.I., w. P. Bedient, and C. Newell (Rice U.), 1992-1993.

CONTINUING EDUCATION

Lecturer and Course Co-Organizer, AECOM Libya Knowledge Transfer Program, Aug – Nov 2008, Feb – April 2009, May – August 2009, Jan – March 2010.

Lecturer and Course Organizer, *Natural Attenuation of Fuel Hydrocarbons and Chlorinated Solvents: Processes, Monitoring and Modeling with BIOSCREEN and BIOPLUME III*, UH Training Course, February, May 2004, and May 2006, held at University of Houston, Houston, Texas.

Lecturer and Course Organizer, *Remediation by Natural Attenuation*, ASTM Training Course, March, May, September, December 2001, Mar, May, Sept. and Nov. 2002, held at University of Houston, Houston, Texas.

Lecturer, *Risk Based Corrective Action for USTs: The ASTM Guidelines*, ASTM Training, Course presented to Exploration and Production Audience, August 2001, Houston, Texas.

Presenter, *NEXRAD Radar Applications in Engineering Hydrology and Water Resources*, Short course at Rice University, Oct 26-27, 2000, Houston, Texas.

Course Organizer, *The Texas Risk Reduction Rules*, Offerings in 5 cities in Texas (Houston, Dallas, San Antonio, Corpus Christi and Midland), April – May 2000.

Lecturer, *Natural Attenuation of Fuel Hydrocarbons and Chlorinated Solvents: Processes, Monitoring and Modeling with BIOSCREEN and BIOPLUME III*, National Ground Water Association Training Course, Jan. 99, May 99 and Sept. 99.

Lecturer, *Remediation by Natural Attenuation*, ASTM Training Course, Nov. 98.

Lecturer, *Modeling Natural Attenuation Using the BIOPLUME III Decision Support System*, Air Force Center for Environmental Excellence, Nov 98, San Antonio, Texas.

Course Organizer, *Risk Based Corrective Action for USTs: The ASTM Guidelines*, June 98, Nov. 98, Mar. 99 and June 99, held at University of Houston, Houston, Texas.

Course Organizer and Lecturer, *Risk Based Corrective Action for USTs: The ASTM Guidelines*, June 96, Aug. 96, Sept. 96 (2 courses), Dec. 96, March 97, Nov. 97, Mar. 98, held at Rice University (1996 courses and Mar 97) and University of Houston (Nov 97 and Mar 98), Houston, Texas.

Course Co-Organizer, *Train the Trainer: the ASTM RBCA Toolkit*, ASTM Training Course, January 98.

Lecturer, *Modeling Natural Attenuation Using the BIOPLUME III Decision Support System*, (2,1-day sessions), Air Force Center for Environmental Excellence, Oct. 97, San Antonio, Texas.

Lecturer, *Risk Based Corrective Action Applied at Petroleum Release Sites*, ASTM Training Course, April 96, November 96, January 97, August 97, Nov. 97, Dec. 98, Mar. 99.

Lecturer, *Intrinsic Remediation: Principles, Applications and Case Studies*, INET Training Course, October 1995, February 96.

Course Organizer and Lecturer, *BIOPLUME II Modeling*, U. S. Corps of Engineers, May 1995.

Lecturer, *U. S. Air Force Environmental Restoration Technology Transfer Symposium*, January 1993 and November 1994, San Antonio, Texas.

Lecturer, *BIOPLUME II Modeling*, Nov. 93, held at Engineering Science headquarters, Houston, Texas.

Lecturer, *Bioremediation of Contaminated Ground Water*, Superfund University Training Institute, May 1993.

Lecturer, *Subsurface and Ground Water Modeling*, Superfund University Training Institute, September 1991, March and November 1992, March 1993.

Lecturer, *Biodegradation Modeling*, May 1988, held at Dow Chemical Company headquarters, Houston, Texas.

Lecturer, *Transport and Fate of Contaminants in Subsurface*, Superfund University Training Institute, January and June 1991, October and December 1992, May 1993.

Lecturer, *Ground Water Modeling*, November 1987, March 1988, November 1988, March 1989, held at Rice University, Houston, Texas.

Lecturer, *Introduction to Ground Water*, March 1987, March 1988, held at Rice University, Houston, Texas.

AWARDS, HONORS, AND RECOGNITION

Board Member, Scientists and Engineers Division (SED), National Groundwater Association, 2010-2012.

Council Member, Galveston Bay Council, as of 2010.

Member, Task Force on Bacteria TMDLs, Texas Commission on Environmental Quality (TCEQ), 2006-2007.

Invited Panelist, The State of Research within the Galveston Bay Ecosystem, The 7th Biennial State of the Bay Symposium, January 25, 2005.

Editor-in-Chief, *Bioremediation Journal*, Taylor and Francis, January 2002-present

Recipient of the 2001 Wesley W. Horner Award for Best Paper from the American Society of Civil Engineers for Rifai *et al.*, *Modeling Natural Attenuation of Fuels with BIOPLUME III*, *ASCE Journal of Environmental Engineering*, 126(5): 428-438, 2000.

Member, Texas Natural Resource and Conservation Commission (TNRCC) Committee developing Natural Attenuation Guidance under the Texas Risk Reduction Rules (TRRP) program (TRRP-33), 2000-2001.

Member, U. S. EPA Science Advisory Board Environmental Engineering Committee (FY00) – Natural Attenuation Subcommittee, 2000-01.

Invited Panelist, DuPont Workshop on Modeling and Management of Emerging Environmental Issues, Simulation of Halogenated Hydrocarbons in the Subsurface Panel, 2000.

Guest Editor, Special 3-Part Issue on Natural Attenuation, *Bioremediation Journal*, 1998-1999.

Associate Editor, *Bioremediation Journal*, CRC Press, 1997-2001.

Co-Chair, ASTM Committee on Remediation by Natural Attenuation Standard for Chlorinated Solvents and other Compounds, 1998-2000.

Peer Review Panel Member for Lawrence Livermore National Laboratory Study *Behavior of Chlorinated Volatile Organic Compound Plumes: Data Collection and Analysis Methods*, 1997-1998.

National trainer, *ASTM Remediation by Natural Attenuation Standard*, 1998-2002.

National trainer, *ASTM Risk Based Corrective Action Standard*, 1996-2001.

Ralph Budd Award for Best Dissertation in Engineering, Rice University highest award to graduating Ph.D. students in engineering, 1989.

Eleanor and Mills Bennett Fellowship in Hydrology, Rice University fellowship awarded to outstanding graduate students, 1987-1989.

SPECIAL HONORS FOR RESEARCH

Union Carbide Unrestricted Research Grant \$25,000/yr: 1997, 1998, 1999 and 2000.

PUBLICATIONS

Refereed Journals

Howell, N. L., D. Lakshmanan, H. S. Rifai, and L. Koenig, PCB Dry and Wet Weather Concentration and Load Comparisons in Houston-Area Urban Channels, *Science of the Total Environment*, (Accepted), 2011.

Petersen, T. M., H. S. Rifai, and R. Stein, Modeling *Escherichia coli* and its Sources in an Urban Bayou with Hydrologic Simulation Program in Fortran (HSPF), *ASCE Journal of Environmental Engineering*, In Press, 2011).

Desai, A. M., H. S. Rifai, T. M. Petersen, and R. Stein, Mass Balance and Water Quality Modeling for Load Allocation of *Escherichia coli* in an Urban Watershed, *Journal of Water Resources Planning and Management* (In Press), 2011.

- Desai, A. M., and H. S. Rifai, Variability of *Escherichia coli* Concentrations in an Urban Watershed in Texas, *ASCE Journal of Environmental Engineering*, 136(12), 1347-1359, 2010.
- Lakshmanan, D., N. L. Howell, H. S. Rifai, and L. Koenig, Spatial and Temporal Variation of Polychlorinated Biphenyls in the Houston Ship Channel, *Chemosphere*, 80(2), 100-112, 2010.
- Dean, K., M. P. Suarez, H. S. Rifai, R. M. Palachek and L. Koenig, Bioaccumulation of Polychlorinated Dioxins and Furans in Catfish and Crabs along an Estuarine Salinity and Contamination Gradient, *Environmental Toxicology and Chemistry*, 28(11), 2307-2317, 2010.
- Desai, A., H. S. Rifai, E. Helfer, N. Moreno, and R. Stein, Statistical Investigations into Indicator Bacteria Concentrations in Houston Metropolitan Watersheds, *Water Environment Research*, 82(4), 302-318, 2010.
- Petersen, T. M., H. S. Rifai, and R. Stein, Bacteria Load Estimator Spreadsheet Tool (BLEST) for Modeling Spatial *Escherichia coli* Loads to an Urban Bayou, *ASCE Journal of Environmental Engineering*, 135(4): 203-217, 2009.
- Howell, N., M. P. Suarez, H. S. Rifai, and L. Koenig, Concentrations of Polychlorinated Biphenyls in Water, Sediment, and Aquatic Biota in the Houston Ship Channel, Texas, *Chemosphere*, 70(4), 593-606, 2008.
- Yeager, K. M., Santschi, P. H., H. S. Rifai, M. P. Suarez, R. Brinkmeyer, C-C. Hung, K. Schindler, M. Andres, and E. Weaver, Dioxin Chronology and Fluxes in Sediments of the Houston Ship Channel, Texas: Influences of Non-Steady State Sediment Transport and Total Organic Carbon, *Environmental Science and Technology*, 41, 5291-5298, 2007.
- Ling, M., and H. S. Rifai, Modeling Natural Attenuation with Source Control at a Dry-Cleaner Site, *Groundwater Monitoring Review and Remediation*, 27 #1, 108-121, 2007.
- Suarez, M. P., H. S. Rifai, J. Schimek, M. Bloom, P. Jensen, and L. Koenig, Dioxin in Stormwater Runoff in Houston, TX, *ASCE Journal of Environmental Engineering*, v. 132, #12, 1633-1643, 2006.
- Petersen, T., M. P. Suarez, H. S. Rifai, P. Jensen, Y-C. Su, and R. Stein, Status and Trends of Fecal Coliform Indicator Bacteria in Two Urban Watersheds, *Water Environment Research*, v78, #12, 2340-2355, 2006.
- LaWare, P. and H. S. Rifai, Modeling Fecal Coliform Contamination from Non Point Sources in the Rio Grande, *Journal of the American Water Resources Association*, v42, #2, 337-356, 2006.
- Correa, O. E., L. Raun, H. S. Rifai, M. P. Suarez, T. Holsen, and L. Koenig, Depositional Flux of Polychlorinated Dibenzofurans in an Urban Setting, *Chemosphere*, 64, 1550-1561, 2006.
- Hausman, S., and H. S. Rifai, Modeling Remediation Time Using Natural Attenuation at a Dry Cleaner Site, *Remediation*, vol 16, No. 1, 5-31, 2005.
- Suarez, M. P., H. S. Rifai, R. Palachek, K. Dean, and L. Koenig, Polychlorinated Dibenzo-p-Dioxins and Dibenzofurans in Houston Ship Channel Tissue and Sediment, *Environmental Engineering Science*, vol 2, No. 6, 891-906, 2005.
- Suarez, M. P., H. S. Rifai, R. Palachek, K. Dean, and L. Keonig, Distribution of Polychlorinated Dibenzo-P-Dioxins and Dibenzofurans in Suspended Sediments, Dissolved Phase and Bottom Sediment in the Houston Ship Channel, *Chemosphere*, vol 62, No.3, 417-429, 2005.

- Petersen, T., H. S. Rifai, M. P. Suarez, and R. Stein, Bacteria Loads from Point and Non-Point Sources in an Urban Watershed, *ASCE Journal of Environmental Engineering*, vol. 131, No. 10, 1414-1425, 2005.
- Raun, L., O. Correa, O., H. Rifai, M. Suarez and L. Koenig, Statistical Investigation of Polychlorinated Dibenzo-p-dioxins and Dibenzofurans in the Ambient Air of Houston, Texas, *Chemosphere*, 60:973-989, 2005.
- Ling, M., H. S. Rifai, and C. J. Newell, Optimizing Long-Term Monitoring Networks Using Delaunay Triangulation Spatial Analysis Techniques, *Environmetrics*, 16:635-657, 2005.
- Rifai, H. S., and T. Rittaler, Modeling Natural Attenuation of BTEX with Analytical and Numerical Models, *Biodegradation*, 16 (4): 291-304, 2005.
- Ling, M. H. S. Rifai, J. J. Aziz, C. J. Newell, J. R. Gonzales, and J. M. Santillan, Strategies and Decision-Support Tools for optimizing Long-Term Groundwater Monitoring Plans-MAROS 2.0, *Bioremediation Journal*, vol. 8, 3-4, 109-128, 2004.
- Correa, O. H. S. Rifai, L. Raun, M. P. Suarez, and L. Koenig, Concentrations and Vapor-Particle Partitioning of Polychlorinated Di-benzo-p-dioxins and Dibenzofurans in Ambient Air of Houston, TX, *Atmospheric Environment*, 38: 6687-6699, 2004.
- Suarez, M. P., H. S. Rifai, T. J. Rittaler, and S. Hausman, Natural Attenuation of Chlorinated Solvent Plumes at Texas Dry-Cleaners, *Remediation*, v. 14, No. 3, 7 – 31, 2004.
- Mehdizadeh, F. and H. S. Rifai, Modeling Point Source Plumes at High Altitudes Using a Modified Industrial Source Complex Model, *Atmospheric Environment*, 38, 821-831, 2004.
- Fiorenza, S. and H. S. Rifai, Review of MTBE Biodegradation and Bioremediation, *Bioremediation Journal*, 7(1):1-35, 2003.
- Aziz, J. J., M. Ling, H. S. Rifai, C. J. Newell, and J. R. Gonzales, MAROS: a Decision Support System for Optimizing Monitoring Plans, *Ground Water*, v41, No. 3, 355-367, 2003.
- Ling, M., Rifai, H. S., Newell, C. J., Aziz, J. J. and Gonzales, J. R., Groundwater Monitoring Plans at Small Scale Sites—An Innovative Spatial and Temporal Methodology, *Journal of Environmental Monitoring*, vol. 5, No. 1, 126-134, 2003.
- Fiorenza, S., M. P. Suarez and H. S. Rifai, MTBE in Groundwater: Status and Remediation, *ASCE Journal of Environmental Engineering*, vol. 128, No. 9, 773 – 781, 2002.
- Suarez, M. P. and H. S. Rifai, Evaluation of BTEX Remediation by Natural Attenuation at a Coastal Facility, *Ground Water Monitoring and Remediation*, 22(1):62-77, 2002.
- Suarez, M. P. and H. S. Rifai, Modeling Natural Attenuation of Total BTEX and Benzene Plumes with Different Kinetics, *Ground Water Monitoring and Remediation*, 24(3):53-68, 2002.
- Rifai, H. S., P. B. Bedient, and G. L. Shorr, Monitoring Hazardous Waste Sites: Characterization and Remediation Considerations, *Journal of Environmental Monitoring*, 2(3): 199-212, 2000.
- Rifai, H. S., C. J. Newell, J. R. Gonzales, and J. T. Wilson, Modeling Natural Attenuation of Fuels with BIOPLUME III, *ASCE Journal of Environmental Engineering*, 126(5): 428-438, 2000.
- Rifai, H. S., S. M. Brock, K. B. Ensor, and P. B. Bedient, Determination of Low-Flow Characteristics for Texas Streams, *ASCE Journal of Water Resources Planning*, 126(5): 310-319, 2000.
- Hopkins, L. P., K. B. Ensor and H. S. Rifai, Empirical Evaluation of Ambient Ozone Interpolation Procedures to Support Exposure Models, *Journal of the Air and Waste Management Association*, v. 49: 839-846, 1999.

- Suarez, M. P. and H. S. Rifai, Biodegradation Rates for Fuel Hydrocarbons and Chlorinated Solvents in Groundwater, *Bioremediation Journal*, 3(4): 337-362, 1999.
- Rifai, H. S., L. A. Hendricks, K. Kilborn, and P. B. Bedient, A Geographical Information System (GIS) User Interface for Delineating Wellhead Protection Areas, *Ground Water*, 31(3): 480-488, 1993.
- Bedient, P. B., and H. S. Rifai, Ground Water Contaminant Modeling for Bioremediation: A Review, *Journal of Hazardous Materials*, 32:225-243, 1992.
- Rifai, H. S., and P. B. Bedient, Comparison of Biodegradation Kinetics with an Instantaneous Reaction Model for Groundwater, *Water Resources Research*, 26 (4), 637-645, 1990.
- Rifai, H. S., P. B. Bedient, J. T. Wilson, K. M. Miller, and J. M. Armstrong, Biodegradation Modeling at Aviation Fuel Spill Site, *ASCE Journal of Environmental Engineering*, 114 (5), 1007-1029, 1988.

Editorials and Journal Discussions

- Rifai, H. S., Dehalococoides Ethenogenes as Indicators for Natural Attenuation, Monitored Natural Attenuation Forum Panel Discussion, *Remediation*, 109-116, Winter 2003.
- Rifai, H. S., A Continued Vision for Bioremediation, *Bioremediation Journal*, 2002.
- Rifai, H. S., One Hundred Years of Natural Attenuation, *Bioremediation Journal*, 2 (3&4): 217-219, 1998.

Invited Papers

- Jensen, P., H. Rifai, T. Battenfield, and S. Payne, Lessons Learned from Texas Bayous: Identifying Bacteria Sources, *Public Works*, October 2001.
- Rifai, H. S. and M. P. Suarez, The RBCA Success Story, *Environmental Protection*, 26-30, December 2000.
- Rifai, H. S. and P. LaWare, A Woody Invader: Mapping the Spread of Chinese Tallow in South Houston Using Landsat MultiSpectral Scanner Data, *Geospatial Solutions*, 29-30, November 2000.
- Rifai, H. S., C. J. Newell, and P. B. Bedient, Getting to the Nonpoint Source with GIS, *Civil Engineering*, 44-46, 1993.
- Rifai, H. S., C. J. Newell, and P. B. Bedient, GIS Enhances Water Quality Modeling, *GIS World*, 52-55, 1993.
- Kilborn, K., H. S. Rifai, and P. B. Bedient, Connecting Groundwater Models and GIS, *Geo Info Systems*, 26-31, 1992.

Peer-Reviewed Government and Industry Reports

- Newell, C. J., H. S. Rifai, J. T. Wilson, J. A. Connor, J. A. Aziz, and M. P. Suarez, Calculation and Use of First-Order Rate Constants for Monitored Natural Attenuation Studies, EPA/540/S-02/500, 27 pp, Nov. 2002.
- Co-authored TNRCC Regulatory Guidance, Remediation Division, RG-366/TRRP-33, Monitored Natural Attenuation Demonstrations, October 2001.
- Co-Authored EPA SAB Report, Monitored Natural Attenuation: *USEPA Research Program—An EPA Science Advisory Board Review*, EPA-SAB-EEC-01-004, May 2001, 46 pp., 2001.

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- Rifai, H. S., Dioxin and PCB Contamination in the HSC and Galveston Bay: Past, Present, and Future, Texas Association of Environmental Professionals, Houston, TX, November 18, 2010.
- Rifai, H. S., Relationship Between Bacteria and Conventional Water Quality Parameters, Clean Water Initiative (CWI) Workshop, Houston, TX, Houston-Galveston Area Council, September 28, 2010.
- Rifai, H. S. Hurricane Ike: Lessons Learned: Industrial and Municipal Considerations, SSPEED Center Conference, September 13, Rice University, Houston, TX, 2010.
- Rifai, H. S., Polychlorinated Biphenyls (PCBs) in the Houston Ship Channel, SURF Presentation, UH, July 7, 2010, Houston, TX, 2010.
- Rifai, H. S., Critical Infrastructure Vulnerability: What is at Risk, 2010 Coastal Resilience Symposium, May 26, 2010, Rice University, 2010.
- Rifai, H. S., Infrastructure Sustainability and Resilience: Lessons Learned from Ike, Impact Weather Conference, May 21, 2010, Houston, TX, 2010.
- Rifai, H. S., Polychlorinated Biphenyls (PCBs) in the Houston Ship Channel and Upper Galveston Bay, UT San Antonio, October 2, 2009, San Antonio, TX, 2009.

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- Rifai, H. S., To be An Engineer, GRADE Camp, UH, June 19, 09, Houston, TX, 2009.
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- Rifai, H. S., Advanced Monitoring and Educational Initiatives in SSPEED, State Hurricane Conference, March 20, 2008, Galveston, TX, 2008.
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- Rifai, H. S., Sources and Distribution of PCBs and Dioxins in the Houston Ship Channel, Seminar, November 14, Department of Civil and Environmental Engineering, Rice University, Houston, Texas, 2005.

- Rifai, H. S., Bioremediation Journal: Past, Present and Future, Keynote Speaker, 8th In Situ and On Site Bioremediation Symposium, June 6-9, Baltimore, MD, 2005.
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- Rifai, H. S., State-of-the-Art Techniques in Natural Attenuation of Groundwater Contamination, WEAT SE Section Meeting, November 16, 2000.
- Rifai, H. S., Natural Attenuation of Fuels and Chlorinated Solvents, Seminar at Rice University, Department of Environmental Science and Engineering, March 28, 2000.
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- Rifai, H. S., The Role of Intrinsic Remediation in Aquifer Cleanup, SETAC 19th Annual Meeting, Nov. 15 - 19, Charlotte, NC, 1998.

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- Rifai, H. S., Modeling and Intrinsic Bioremediation, Intrinsic Bioremediation, Strategies for Effective Analysis, Monitoring and Implementation, *IBC's 1st Annual International Symposium on Intrinsic Bioremediation*, Oct 16 - 17, Annapolis, MD, 1995.
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- Rifai, H. S., Decision Support Systems in the Public Domain: Issues and Considerations, EPA Conference on Decision Support Systems, June 28 - 29, Seattle, Washington, 1994.
- Rifai, H. S., and P. B. Bedient, Decision Support System for Evaluating Remediation Performance with Interactive Pump-and-Treat Simulator, EPA Annual Seminar, June 1 - 3, Ada, OK, 1994.
- Rifai, H. S., A Decision Support System for Pump-and-Treat Remediation, 1994 EPA NARPM Conference, May 24 -26, Kansas City, Missouri, 1994.
- Rifai, H. S., Geographical Information System and Decision Support System Applications in Groundwater, Seminar at Rice University, September 21, Houston, TX, 1993.
- Rifai, H. S., Characterization of Non-Point Sources of Pollution in Galveston Bay, Woodward-Clyde Seminar Series, May 20, Houston, TX, 1992.
- Rifai, H. S., Evolution of Geographical Information Systems for Site Management, Waste Management's Fall Technical Conference, September, Chicago, IL, 1991.
- Rifai, H. S., and P. B. Bedient, GIS for Wellhead Protection, Association of Engineering Geologists 36th Annual Meeting, October 9-15, San Antonio, TX, 1993.
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Research Presentations

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- Howell, N. L., and H. S. Rifai, Comparative Distribution, Sourcing, and Chemical Behavior of PCDD/FS and PCBs in an Estuary Environment, Dioxin 2010 Conference, San Antonio, TX, September 13-17, 2010.
- Desai, A. M., and H. S. Rifai, Variability of E. Coli Concentrations in an Urban Watershed in Teas, AWWA International Symposium on Waterborne Pathogens Conference, May 2-4, Manhattan Beach, CA, 2010.
- Desai, A. M., and H. S. Rifai, Variability of E. Coli Concentrations: High Resolution Monitoring and Statistical Modeling, Water Environment Association of Texas (WEAT) Conference, April 13-16, Corpus Christi, TX, 2010.
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- Moreno, N. and H. S. Rifai, Hydrologic and Water Quality Modeling of Sims Bayou Watershed Using HSPF, Southeast Chapter of Texas AWWA Current Challenges in Potable Water Industry in Southeast Texas Conference, March 8, Houston, TX, 2010.
- Moreno, N. and H. S. Rifai, Flow and E. Coli Modeling for Sims Bayou in Houston using the Hydrologic Simulation Program in Fortran (HSPF) and Hydrologic Modeling System – HEC HMS, Texas Association of Environmental Professionals 4th Annual Environmental Challenges and Innovations Conference: Gulf Coast 2010, February 11, Houston, TX, 2010.
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- Rifai, H. S., Environmental and Infrastructure Risks, SSPEED Training Workshop, June 23, 2008, Rice University, Houston, TX, 2008.
- Rifai, H. S., and A. Desai, Impacts of Rainfall Events on Water Quality in the Houston Metro Area, SSPEED Center Severe Storm Prediction and Global Climate Impact on Gulf Coast Conference, October 29-31, 2008, Rice University, Houston, TX, 2008.

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Professional

Board Member, Scientists and Engineers Division (SED), National Ground Water Association, Jan 2010 – current.

Council Member, Galveston Bay Council, 2010 – current.

Editor-in-Chief, *Bioremediation Journal*, 2002 – current.

Member, American Ground Water Scientists and Engineers (AGWSE) Awards Committee.

Member, National Ground Water Association Awards (NGWA) Committee.

Member, Interest Group Oversight Subcommittee, National Ground Water Association (NGWA), 2001-2005.

Member, NGWA (National Ground Water Association) Research and Technology Transfer Committee, 1999-2001.

Student Chapter Advisor, Engineers without Borders

Professional Engineer, State of Texas, No. 71207, since 1991.

Member

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National Ground Water Association (NGWA)

Scientists and Engineers Division (SED), NGWA

Water Environment Federation (WEF)

American Society of Civil Engineers (ASCE)

American Chemical Society (ACS)

Association of Environmental Engineering and Science Professors (AEESP)