

Specialty Consulting Company

Company Profile



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Attachment A. List of RBM projects

Attachment B. RBM consultant's resume

1. INTRODUCTION

RBM Consulting Group, Inc. (“RBM”) is a specialty consulting company providing services in the Geotechnical and Foundations Engineering, and Oil and Gas industries. RBM creates partnerships with industry expert consultants to form strong teams, unique to specific project requirements. All RBM consultants are recognized industry leaders in their field of expertise and most of them are distinguished scholars collaborating with universities around the world. RBM brings in expert consultants on an as-needed basis to provide consulting expertise to best-serve specific project needs and requirements.

In early 2004, Rozbeh B. Moghaddam and Prof. Carlos Yzquierdo started a company, YZMO Geotecnia, S.C. (“YZMO”), with headquarters in Mexico City to provide Geotechnical Engineering design services for commercial, residential, and transportation projects in Mexico. In 2006, YZMO expanded its operations to the Central and South America. Due to Prof. Yzquierdo’s prior experience with the design and construction of the Metro system in Mexico City, in 2007, YZMO was selected as the External Consultant to the Mexico City transportation authorities during the design and construction of the Mexico City’s Metro Liner 12. Unfortunately, with the departure of Prof. Yzquierdo from YZMO, due to health complications, YZMO’s operations were narrowed to specialized consulting in foundation remediations for structures under excessive movement due to Mexico City’s subsidence. Rozbeh continued providing support to clients in Mexico City on a part-time basis while he worked on his Doctoral degree at the Texas Tech University focusing on the Load and Resistance Factor design of deep foundations in Texas. In 2016, upon completion of his Doctoral studies, Rozbeh joined GRL Engineers, Inc. (“GRL”) supporting their Research and Development team.

In 2019, RBM was formed in San Antonio, TX to continue YZMO’s legacy by providing consulting services in the United States, and supporting former clients in Mexico, Central and South America. In 2020 a new segment was added to RBM to provide expert consulting in the Oil and Gas industry. Currently, RBM provides consulting services in the Geotechnical Engineering industry as well as the Oil and Gas industry.

RBM follows its **T.E.A.M.** concept with strong focus on *Time, Expertise, Applicability, and Management*. At RBM, we work as a team and we follow the T.E.A.M to **engineer constructible solutions!**

2. T.E.A.M. CONCEPT

TIME. The RBM team understands the time importance and its impact on project schedule. We believe that time-efficiency can be achieved by effective communication among the project stakeholders engaged in the design, construction, and testing. Therefore, we are committed to sharing our experiences to help prevent project delays.

EXPERTISE. RBM is committed to providing superior expert consulting by working with and partnering with, when necessary, industry professionals and other disciplines to create a collaborative practice that widens the range of expertise available for our clients.

APPLICABILITY. With active presence at industry technical committees and through collaboration with universities, RBM supports research within the Geotechnical and Foundation engineering industry. This involvement helps RBM identify the latest advancements and their applicability within our industry.

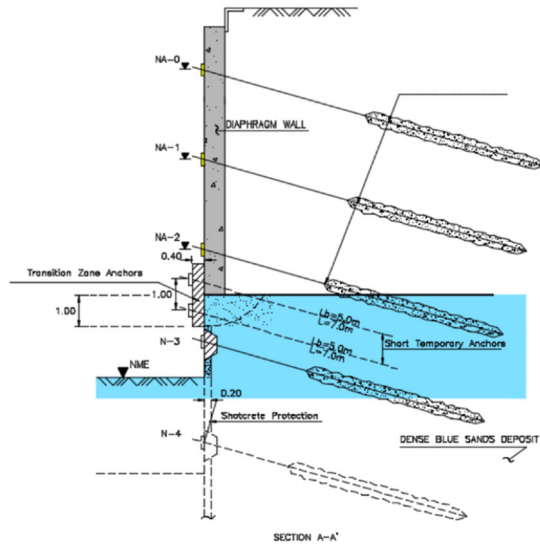
MANAGEMENT. RBM provides strong management to bond Time, Expertise, and Applicability. We strongly follow a collaborative and delegating management model. Our managers prefer to observe and assist rather than control and dictate. We believe everyone on our team can contribute to our success.

The result of the T.E.A.M. concept has proven valid and efficient outcomes throughout each project and administrative function (written reports, technical memorandums, personal communications) so that RBM can best support our clients' requests.

3. SERVICES

RBM consultants use all available means and methods to aid our clients with their complex challenges and provide a safe, constructible, practical, and efficient solution to our clients' project needs. RBM engineering consultants possess the ability of providing practical solutions to less complex situations based on results from an engineering hand calculation sheet as well as advanced software skills to tackle more-complex situations with the use of numerical models and Finite Element Analysis.

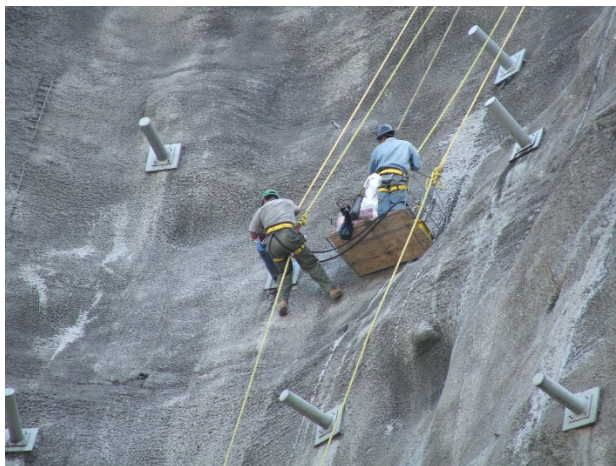
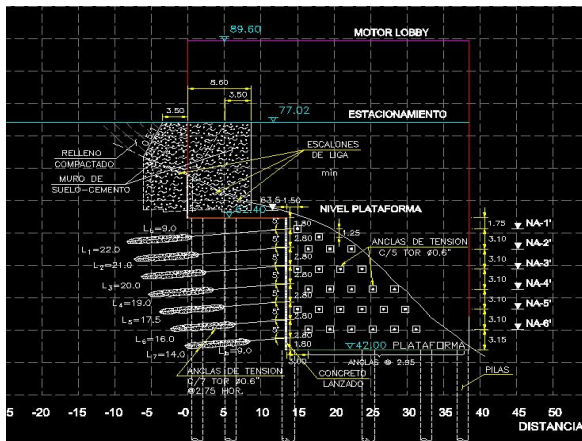
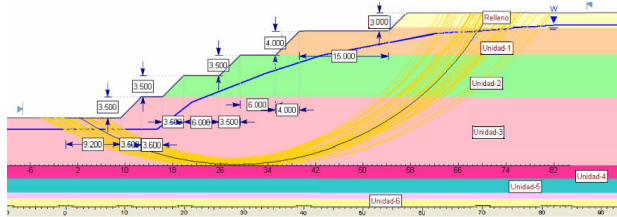
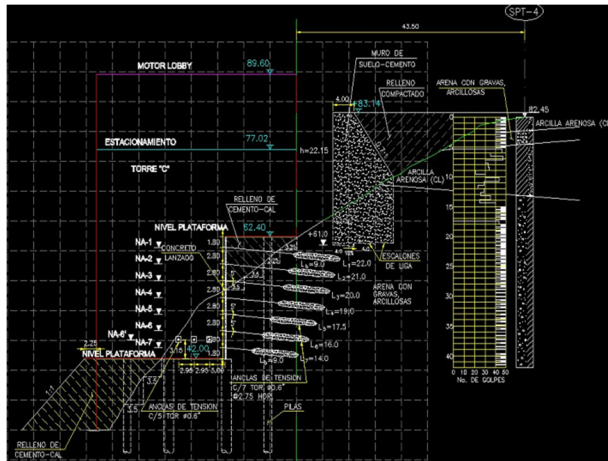
3.1 Geotechnical Engineering



Design and Evaluation

- Deep and Shallow Foundations
- Earth Retention Systems
- Slope Stability
- Excavations
- Support of Litigation
- Tunneling and Underground







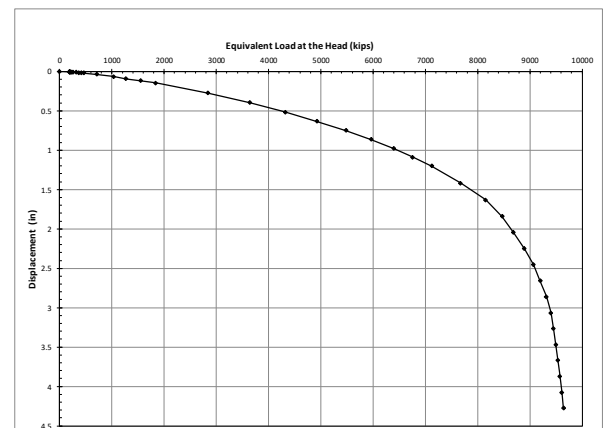
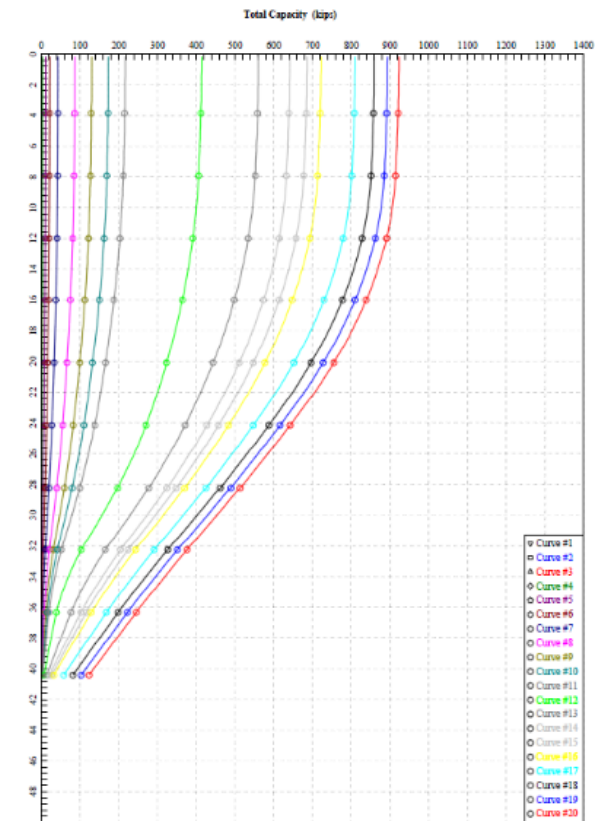
Value Engineering

- Foundation Optimization
- Alternative Technical Concepts
- Load Test Program Design
- Existing Foundation Assessment



Specialty Contractor Support

- Planning, Implementation, Data Review, and Data Analysis
 - Full-Scale Load Testing
 - Non-Destructive Testing
- Foundation Remediation
- Differential Settlement Remediation



3.2 Oil and Gas Industry

Drilling Engineering

- Wellbore integrity evaluation
- Oil and gas wellbore design
- Oil and gas well testing analysis



Wellbore Completion and Stimulation

- Hydraulic fracturing analysis
- Fracturing diagnostic testing analysis
- Matrix Acidizing and Acid Fracturing



Production Optimization and Flow Assurance

- Asphaltene, Wax and Gas Hydrate Formation, Deposition and Remediation
- Multiphase Flow Modeling and Production System Simulation
- Sand Production Control, Scale Formation and Corrosion Inhibition
- Artificial Lift, Design, Simulation and Operation
- Water Shutoff Operation, Analysis and Design
- Produced Water Management
- Heavy Oil Upgrading
- Real Time Measurements, Cloud Computing and Big Data Analysis
- EOR, Surfactant and Polymer Flooding



4. PROJECTS

RBM has been part of more than 145 designs, evaluations, and consulting projects with major focus on industrial, commercial, transportation, and Oil & Gas projects in the United States, Mexico, Central and South America. With a diverse background, and strong communication and language skills, RBM consultants can effectively communicate with our clients, identify project needs, and deliver safe and efficient solutions. A full list of projects including details regarding RBM's role is presented in Attachment A.

United States



Mexico



Central and South America



5. CONSULTING TEAM

Rozbeh "Roz" B. Moghaddam, P.E., Ph.D., M.B.A
President

Rozbeh B. Moghaddam is the President of RBM Consulting Group, Inc. His research and more than 15 years of professional experience has included a significant focus on design and construction of underground structures, earth retention systems, and deep foundations in soft clays. As a geotechnical practitioner, Dr. Moghaddam has participated in major projects in the United States, Mexico, Central and South America, and Europe. He spent a significant part of his professional career designing foundations, earth retention systems, and tunnel sections in Mexico City's complex soils. Dr. Moghaddam received his Ph.D. degree in Civil Engineering from Texas Tech University, an M.B.A. from Eastern New Mexico University, and a Professional Degree in Civil Engineering from the Instituto Politecnico Nacional in Mexico City, Mexico. He is actively engaged in various industry technical committees and is a member of the International Association of Foundation Drilling (ADSC), Deep Foundation Institute (DFI), and American Society of Civil Engineers (ASCE). He has authored more than 30 technical publications and has lectured at numerous short courses, universities, and seminars.

Tracy Brettmann, P.E., MSE, D.GE

Executive Consultant - Geotechnical

Tracy Brettmann is a Senior Consultant at RBM Consulting Group, Inc. and the Executive Vice President of A.H. Beck Foundation Company in their Houston, Texas office. At RBM, Mr. Brettmann provides expert consulting on Deep Foundations related issues. At A.H. Beck, he is directly responsible for business development and overseeing the engineering operations for its specialty deep foundation, ground improvement, energy pile, and earth retention projects. He received his BSCE degree from the University of Nebraska-Lincoln and his Master's degree in Geotechnical Engineering from the University of Texas at Austin. He has authored over 30 technical papers and numerous magazine articles. Mr. Brettmann is a member of the Academy of Geo-Professionals (AGP), Geo-Institute of ASCE (ASCE/GI), International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE), Deep Foundations Institute (DFI), The International Association of Foundation Drilling (ADSC). Mr. Brettmann is a past president of the Deep Foundations Institute and is a former chair of its Augered Cast-in-Place (ACIP) Pile committee. He currently serves as the chair of the DFI Educational Trust board.

Vahid Taghikhani, Ph.D.

Executive Consultant - Oil & Gas

Dr. Vahid Taghikhani is an Executive Consultant at RBM Consulting Group, Inc. and an Adjunct Professor in the Department of Chemical and Biomolecular Engineering at Rice University. He also serves as a Senior Lecturer in the Mechanical Engineering-Subsea Engineering Program at the University of Houston. Dr. Taghikhani is actively collaborating in research with the Electrical and Computer Engineering Department at Rice University and the University of California at Los Angeles, UCLA as well as the Center for Hydrate Research at Colorado School of Mines. Prior to his collaboration with RBM, Dr. Taghikhani worked as independent consultant providing expert consulting services to several industry leaders including the Texas Oil Tech Laboratories. He holds Ph.D., M.Sc. and B.Sc. all majoring in Chemical Engineering, and was recognized as the youngest distinguished Professor in Chemical Engineering by the IChE in 2008. He was awarded the IDB merit scholarship in Research and Technology in 2007 by IDB Bank and several ESRV research awards. He is a Young Entrepreneur Awardee by APChEN, Association of Polymer and Chemical Engineers. He has authored over 250 peer-reviewed technical publications and has lectured at numerous universities and research centers around the world. He is an executive member of the American Institute of Chemical Engineering (AIChE), the World

Chemical Engineering Council (WCEC), and the Asian-Pacific Confederation on Chemical Engineering (APCChE).

Antonio Marinucci, P.E., Ph.D., M.B.A
Senior Consultant - Geotechnical

Dr. Marinucci is a Senior Consultant at RBM Consulting Group, Inc., in addition to the Managing Director at V2C Strategists LLC and President at Advanced Foundation Solutions, LLC. He also serves as a research professor and adjunct lecturer at the Tandon School of Engineering at New York University (NYU). He has 25 years of progressive experience in the civil design-construction industry on public and private projects involving earth retention, deep foundation, underpinning, and ground modification systems. He is a registered professional engineer in Pennsylvania, an instructor for the National Highway Institute (NHI), and is an active member of numerous professional organizations, technical committees, and various practical research efforts. He received a Ph.D. degree in Civil Engineering (Geotechnical emphasis) from the University of Texas at Austin, an MBA degree from the University of Rhode Island, and a MSCE degree from Northeastern University. Dr. Marinucci has authored or coauthored more than 45 peer-reviewed technical publications, and has lectured at numerous short courses, seminars, universities, and conferences in North/Central/South America, Europe, and Asia.

Hossein Emadi, Ph.D., P.E.
Senior Consultant - Oil & Gas

Dr. Hossein Emadi is a faculty member of Bob L. Department of Petroleum Engineering at Texas Tech University. His academic research and over a decade of professional experience have included a significant focus on wellbore stability for unconventional reservoirs, rock mechanics, artificial lift, and oil and gas well cement in shale basins. Currently, Dr. Emadi is serving as the lead Principal Investigator of the oil and gas well cement consortium at the Texas Tech University. Prior to joining Texas Tech as a faculty, Dr. Emadi worked as a drilling engineer and well site drilling engineer within the United States and the Middle East. Dr. Emadi received his Ph.D. in Petroleum Engineering from Texas Tech University. He serves as the faculty advisor for Texas Tech University American Rock Mechanics Association (TTU-ARMA). He is a member of the Society of Petroleum Engineers (SPE) and the National Society of Professional Engineers. He has authored more than 40 technical publications.

Marketing and Business Development

Abigail Schafer

Abigail Schafer is the Marketing and Business Development Leader at RBM Consulting Group, Inc. She is the owner of ABI-G, LLC specializing in professional marketing services and business consulting. She's a graduate of Kent State University with a BA in Managerial Marketing. Her expertise includes small businesses growth focused on brand recognition, the use of analytics in strengthening on-line presence, and direct marketing improvements through content and demographic strategies. Abigail is a geek at heart and her technical skills extend from Adobe products to 3D printing and design. She has spent the last three years immersed in the field of geotechnical engineering promoting research, advancements, and improvements in the deep foundations industry.

For a full resume of each member of RBM's team please Attachment B, or visit our website at www.rbmcgroup.com.

ATTACHMENT A

RBM Project List

We Engineer Constructible Solutions!

Location	No.	Client	Project Type	Levels	Basement	Country	State	Foundation/Solution	Consulting Services
-99.235906,19.347309	1	Patricia Gomez Rodriguez	Condominium	3	NA	Mexico	DF	Footings	Foundation Design
-99.124151,19.455185	2	Grupo DV, S.A. de C.V.	Condominium	7	1	Mexico	DF	Driven Piles	Excavation and Foundation Design
-99.192663,19.453553	3	Inmobiliaria La Novena, S.A. de C.V.	Condominium	7	1	Mexico	DF	Driven Piles	Excavation and Foundation Design
-99.157988,19.416683	4	ABRAHAM SITTON DICI Y COPROPIETARIOS	Condominium	5	NA	Mexico	DF	Cell/Compensated	Excavation and Foundation Design
-99.138129,19.433106	5	HOTELES CORAL, S.A. de C.V.	Parking Garage	12	2	Mexico	DF	Mat	Foundation Design, Dewatering Plan, and Excavation
-99.148512,19.418699	6	Grupo Dv, S.A. de C.V.	Condominium	7	1	Mexico	DF	Driven Piles	Excavation and Foundation Design
-99.275958,19.404997	7	ZYMAN Y ZYMAN, S. A de C.V.	Condominium	12	2	Mexico	Edo.	Drilled Shafts	Foundation Design, Dewatering Plan, and Excavation
-99.243136,19.387769	8	INGENIERIA Y CONSTRUCCION 2000, S.C.	Utilities	2	NA	Mexico	DF	Footings	Foundation Design
-99.194859,19.4306	9	VALUARTE, S.A. de C.V.	Condominium	5	1	Mexico	DF	Footings	Excavation and Foundation Design
-99.075675,19.319633	10	MC, CIMENTACIONES Y ESTRUCTURAS, S.A. de C.V.	Hotel	2	NA	Mexico	DF	Footings	Foundation Design
-99.297425,19.416902	11	RESIDENCIAL ARRAYAN, S.A. de C.V.	Parking and Condo	20	3	Mexico	Edo.	Drilled Shafts	Foundation Design, Dewatering Plan, and Excavation
-99.263189,19.386022	12	ARQ. ALEJANDRA ELIZARRARAS	Slope Stability	NA	NA	Mexico	DF	6-Strand Post-Tensioned Anchors	Slope Stability Analysis and Anchor Design
-99.157988,19.416683	13	SR. ABRAHAM SITTON DICI Y COPROPIETARIOS	Condominium	4	NA	Mexico	DF	Driven Piles	Foundation Design
-99.174385,19.442521	14	ING. RAUL R. OJESTO MARTINEZ GARCIA	Condominium	6	NA	Mexico	DF	Cell/Compensated	Excavation and Foundation Design

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-99.147799,19.369639	15	ING. IVAN A. STERN LEUCHTER	Condominium	4	1	Mexico	DF	Cell/Compensated	Excavation and Foundation Design
-99.192285,19.434253	16	SR. ARTURO BEGUN SOBOL Y COPROPIETARIOS	Condominium	4	1	Mexico	DF	Mat	Excavation and Foundation Design
-99.138222,19.465443	17	ING. MANUEL HERRERA GONZALEZ	Condominium	6	NA	Mexico	DF	Driven Piles	Foundation Design
-99.15099,19.394754	18	ING. FEDERICO JIMENEZ CANET	Condominium	7	1	Mexico	DF	Driven Piles	Excavation and Foundation Design
-99.157675,19.416404	19	SR. ABRAHAM SITTON DICHY Y COPROPIETARIOS	Condominium	4	NA	Mexico	DF	Driven Piles	Foundation Design
-99.128112,19.263592	20	INMOBILIARIA 22, S.A. de C.V.	Absorption Wells	NA	NA	Mexico	DF	Drain System Construction Procedure	Permeability Analysis and Field Testing
-99.251068,19.387802	21	GIC S.A. de C.V.	Slope Stability	NA	NA	Mexico	DF	4-Strands Post-Tensioned Anchors	Slope Stability Analysis and Anchor Design
-99.199127,19.430816	22	ING. MANUEL HERRERA GONZALEZ	Condominium	NA	1	Mexico	DF	Mat	Foundation and Excavation Design
-99.195145,19.714149	23	Sr. MANUEL PORRERO LICHTLE	Shopping Center	1	1	Mexico	Edo.	Footings	Foundation and Excavation Design
-99.297402,19.559928	24	Lic. ROBERTO COBOS ARGUELLES	Business Center	3	1	Mexico	Edo.	Footings	Excavation and Foundation Design
-99.666906,19.285507	25	GRUPO DESARROLLADOR FUSION, S.A. de C.V.	Condominium	5	2	Mexico	Edo.	Mat	Foundation Design, Dewatering Plan, and Excavation
-99.157865,19.413322	26	SRA. LINDA LEVY RAIS Y COPROPIETARIOS	Condominium	4	1	Mexico	DF	Driven Piles	Excavation and Foundation Design
-99.162293,19.386378	27	ZKC DESARROLLOS, S.C.	Condominium	6	1	Mexico	DF	Driven Piles	Excavation and Foundation Design
-99.048343,19.574997	28	MOVIL MAXX GAS, S.A de C.V.	Gas Station	NA	NA	Mexico	Edo.	Mat	Excavation and Foundation Design

RBM Project List

We Engineer Constructible Solutions!

Location	No.	Client	Project Type	Levels	Basement	Country	State	Foundation/Solution	Consulting Services
-99.176292,19.291866	29	INGENIERIA ESTRUCTURAL Y SUPERVISIÓN S.A. de C.V.	Office Building	4	1	Mexico	DF	Mat	Excavation and Foundation Design
-99.121232,19.379699	30	Grupo Inmobiliaria ALTIVA	Condominium	NA	NA	Mexico	DF	Bituminous layer to reduce Neagtive Friction	Diaphragm Wall Design and Negative Friction
-99.16683,19.395628	31	RESTAURANTERA COYOACAN, S.A. de C.V.	Parking Garage	4	1	Mexico	DF	Driven Piles	Excavation and Foundation Design
-99.210487,19.485513	32	JAR ESTATE CORP, S.A. de C.V.	Condominium	6	1	Mexico	DF	Drilled Shafts	Excavation and Foundation Design
-99.253035,19.384488	33	GIC S.A. de C.V.	Slope Stability	NA	NA	Mexico	DF	8-Strand Post-Tensioned Anchor	Slope Stability Analysis and Anchor Design
-99.185337,19.381402	34	ING. FEDERICO JIMENEZ CANET	Condominium	4	1	Mexico	DF	Mat	Excavation and Foundation Design
-99.162701,19.406175	35	ING. MANUEL HERRERA GONZALEZ	Condominium	8	3	Mexico	DF	Driven Piles	Foundation Design, Dewatering Plan, and Excavation
-99.160703,19.404024	36	ING. RAFAEL HARARI HABERT	Condominium	6	NA	Mexico	DF	Driven Piles	Foundation Design
-99.154242,19.375851	37	ING. FEDERICO JIMENEZ CANET	Condominium	6	NA	Mexico	DF	Driven Piles	Foundation Design
-99.204838,19.626858	38	IVON HERNANDEZ ORTIZ Y JUAN E. HERNANDEZ ORTIZ	Gas Station	NA	NA	Mexico	Edo.	Mat	Excavation and Foundation Design
-99.151977,19.479477	39	ESTRATEGARQ, S.A DE C.V.	Office Building	4	1	Mexico	DF	Mat	Excavation and Foundation Design
-99.264981,19.392185	40	GRUPO INMOBILIARIA ALTIVA, S.A. DE C.V.	Bridge Foundation	NA	NA	Mexico	DF	Footings	Foundation Design
-99.580145,19.18741	41	ING. MANUEL HERRERA GONZALEZ	Bridge Foundation	NA	NA	Mexico	Edo.	Drilled Shafts	Foundation Design
-99.062291,19.535964	42	UHDE Mexico	Pennwalt Plant	NA	NA	Mexico	Edo.	Driven Piles and Soldier Piles	Excavation Support and Foundation Design

Location	No.	Client	Project Type	Levels	Basement	Country	State	Foundation/Solution	Consulting Services
-99.660712,19.332055	43	UHDE Mexico	Roche Plant	NA	NA	Mexico	Edo.	Driven Piles and Sheet Piles	Excavation Support and Foundation Design
-99.22496,19.424042	44	ZYMAN Y ZYMAN, S. A de C.V.	Condominium	9	2	Mexico	DF	Drilled Shafts	Foundation Design, Dewatering Plan, and Excavation
-99.136938,19.299088	45	ING. MOISES FARCA AMIGA	Shopping Center	1	1	Mexico	DF	Mat	Foundation and Excavation Design
-99.199467,19.433612	46	MC, CIMENTACIONES Y ESTRUCTURAS, S.A. de C.V.	Condominium	3	5	Mexico	DF	Mat	Foundation Design, Dewatering Plan, Diaphragm Wall, and Excavation Phases
-99.199943,19.644014	47	MC, CIMENTACIONES Y ESTRUCTURAS, S.A. de C.V.	Hotel	1	NA	Mexico	Edo.	Footings	Foundation Design
-99.1242143,19.3179114	48	SR. MIGUEL A. GÓMEZ ÁLVAREZ	Hotel	4	1	Mexico	DF	Mat	Excavation and Foundation Design
-99.1300354,19.3711423	49	MC, CIMENTACIONES Y ESTRUCTURAS, S.A. de C.V.	Hotel	3	NA	Mexico	DF	Footings	Foundation Design
-99.1455003,19.435002	50	GC Geoconstrucciones	Office Building	7	1	Mexico	DF	Sub-Excavation (Soil Extraction)	Soil Extraction Analysis and Movement Monitoring
-99.2087024,19.4294512	51	JORMARC, S.A. de C.V.	Condominium	4	2	Mexico	DF	Footings	Foundation Design, Dewatering Plan, and Excavation
-99.1575709,19.36237	52	C.P. FRANCISCO ESQUEDA SALAS	Office Building	3	NA	Mexico	DF	Mat	Foundation Design
-99.1814292,19.429714	53	JORMARC, S.A. de C.V.	Condominium	7	1	Mexico	DF	Drilled Shafts	Excavation and Foundation Design
-99.25253,19.3734518	54	ING. MOISÉS FARCA AMIGA	Condominium	16	4	Mexico	DF	Drilled Shafts	Foundation Design, Dewatering Plan, and Excavation
-99.278745,19.3593683	55	LIC. ANTONIO CABALLERO	Slope Stability	NA	NA	Mexico	DF	4-Strands Post-Tensioned Anchors	Slope Stability Analysis and Anchor Design

RBM Project List

We Engineer Constructible Solutions!

Location	No.	Client	Project Type	Levels	Basement	Country	State	Foundation/Solution	Consulting Services
-99.2570866,19.388291	56	GRUPO LOSA CONSTRUCCIONES, S.A. de C.V.	Condominium	11	NA	Mexico	DF	Drilled Shafts	Foundation Design
-99.1974395,19.4389144	57	MC, CIMENTACIONES Y ESTRUCTURAS, S.A. de C.V.	Hospital Bunker	NA	NA	Mexico	DF	Mat	Foundation Design
-99.1568368,19.3866757	58	SRA. MARTHA GARDUÑO OROPEZA	Condominium	8	1	Mexico	DF	Driven Piles	Excavation and Foundation Design
-99.1890298,19.3493422	59	ZYMAN Y ZYMAN, S. A de C.V.	Shopping Center	3	4	Mexico	DF	Mat	Foundation Design, Dewatering Plan, and Excavation
-99.1938137,19.4373648	60	ARQ. ALEJANDRO DOMINGUEZ BOULLOSA	Condominium	3	1	Mexico	DF	Mat	Excavation and Foundation Design
-99.1798037,19.530489	61	QUAR CONSTRUCTORA, S.A. de C.V.	Gas Station	NA	NA	Mexico	Edo.	Footings	Excavation and Foundation Design
-99.1614045,19.4126962	62	MC, CIMENTACIONES Y ESTRUCTURAS, S.A. de C.V.	Hotel	4	1	Mexico	DF	Mat	Excavation and Foundation Design
-99.1042007,19.4310352	63	SR. FERNANDO J. ROBLES MONTERO	Condominium	4	NA	Mexico	DF	Cell/Compensated	Excavation and Foundation Design
-99.2649813,19.3921848	64	GRUPO INMOBILIARIA ALTIVA, S.A. DE C.V.	Slope Stability	NA	NA	Mexico	DF	6-Strand Post-Tensioned Anchors	Slope Stability Analysis and Anchor Design
-99.2025001,19.4296794	65	AGRUPACION LEONESA DE MEXICO, A.C.	Office Building	3	2	Mexico	DF	Drilled Shafts	Foundation Design, Dewatering Plan, and Excavation
-99.176757,19.3818026	66	ARQ. SALOMON HELFON	Office Building	12	9	Mexico	DF	Drilled Shafts	Foundation Design, Dewatering Plan, Diaphragm Wall, and Excavation Phases
-99.2337001,19.4587054	67	GRUPO INMOBILIARIO GIGANTE, S.A. de C.V.	Shopping Center	3	1	Mexico	Edo.	Footings	Excavation and Foundation Design
-99.117082,19.2767973	68	ING. MANUEL HERRERA GONZALEZ	Auditorium	1	NA	Mexico	DF	Driven Piles	Excavation and Foundation Design

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We Engineer Constructible Solutions!

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-99.1862279,19.3762831	69	SR. ANTONIO GARRIDO CRESPO	Gas Station	NA	NA	Mexico	DF	Footings	Excavation and Foundation Design
-99.1043522,19.4842353	70	LAMDA, SUPERVISION Y CONSTRUCCION, S.A. de C.V.	Condominium	6	NA	Mexico	DF	Cell/Compensated	Excavation and Foundation Design
-99.1562519,19.4210242	71	GRUPO LOSA CONSTRUCCIONES, S.A. de C.V.	Condominium	4	NA	Mexico	DF	Driven Piles	Foundation Design
-99.0517312,19.4814349	72	MC, CIMENTACIONES Y ESTRUCTURAS, S.A. de C.V.	Hotel	2	NA	Mexico	Edo.	Cell/Compensated	Excavation and Foundation Design
-99.00301,19.626614	73	MC, CIMENTACIONES Y ESTRUCTURAS, S.A. de C.V.	Hotel	2	NA	Mexico	Edo.	Footings	Foundation Design
-99.1745913,19.3883335	74	HELFON ARQUITECTOS, S.A. de C.V.	Shopping Center	15	8	Mexico	DF	Drilled Shafts	Foundation Design, Dewatering Plan, Diaphragm Wall, and Excavation Phases
-99.1817337,19.3638436	75	HELFON ARQUITECTOS, S.A. de C.V.	Office Building	22	9	Mexico	DF	Drilled Shafts	Foundation Design, Dewatering Plan, Diaphragm Wall, and Excavation Phases
-99.1329645,19.4281808	76	SR. ALEJANDRO MUSSI	Office Building	4	NA	Mexico	DF	Cell/Compensated	Excavation and Foundation Design
-99.0856996,19.2431942	77	ARQ. JUAN FERNANDEZ DE LA VEGA	Warehouse	2	NA	Mexico	DF	Footings	Pavement and Foundation Design
-99.1494313,19.3630937	78	ING. IVAN A. STERN LEUCHTER	Condominium	4	NA	Mexico	DF	Mat	Foundation Design
-99.2724212,19.4100045	79	GRUPO DESARROLLO ZOOCREATIVO, S.A. de C.V.	Hotel	3	NA	Mexico	Edo.	Mat	Foundation Design
-99.209571,19.427459	80	ARCO ARQUITECTURA CONTEMPORANEA, S.A. de C.V.	Office Building	3	NA	Mexico	DF	Footings	Foundation Design

RBM Project List

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Location	No.	Client	Project Type	Levels	Basement	Country	State	Foundation/Solution	Consulting Services
-99.1637349,19.4298074	81	Construcabi	Office Building	27	4	Mexico	DF	Drilled Shafts, Top-Down Construction with Diaphragm Wall and Dewatering	Foundation Design, Dewatering Plan, and Excavation
-99.1629456,19.4286488	82	Construcabi	Office Building	25	4	Mexico	DF	Drilled Shafts, Top-Down Construction with Diaphragm Wall and Dewatering	Foundation Design, Dewatering Plan, and Excavation
-99.1850383,19.4762941	83	ROJAS ARQUITECTOS, S.A. de C.V.	Condominium	5	NA	Mexico	DF	Cell/Compensated	Excavation and Foundation Design
-99.1824496,19.3038228	84	LIC. CARLOS JIMENEZ LOPEZ	Condominium	8	1	Mexico	DF	Drilled Shafts	Excavation and Foundation Design
-99.1619833,19.3966814	85	MC, CIMENTACIONES Y ESTRUCTURAS, S.A. de C.V.	Gas Station	NA	NA	Mexico	DF	Footings	Excavation and Foundation Design
-99.535352,19.3074925	86	DINAMICA ESPACIAL, S.A. de C.V.	Office Building	3	NA	Mexico	Edo.	Footings	Foundation Design
-99.0951347,19.4226387	87	MIGUEL ANGEL GOMEZ ALVAREZ	Hotel	4	1	Mexico	DF	Driven Piles	Excavation and Foundation Design
-99.274978,19.4022696	88	ZYMAN Y ZYMAN, S. A de C.V.	Condominium	9	3	Mexico	Edo.	Drilled Shafts	Foundation Design, Dewatering Plan, and Excavation
-99.1748324,19.4228233	89	Bancomer	Office Building	50	3	Mexico	DF	Drilled Shafts	Foundation Design, Dewatering Plan, and Excavation
-99.4615527,19.2724803	90	MARTOR ARQUITECTOS, S.A. de C.V.	Gas Station	NA	NA	Mexico	Edo.	Mat	Excavation and Foundation Design
-99.1537836,19.4145816	91	ANCIRA CONSTRUCCIONES, S.A. de C.V.	Condominium	7	1	Mexico	DF	Driven Piles	Excavation and Foundation Design
-99.2431358,19.3877687	92	Grupo Inmobiliaria ALTIVA	Sinkhole treatment	NA	NA	Mexico	DF	Filling sinkholes with sand bags and folowable fill	Sinkhole treatment feasibility

RBM Project List

We Engineer Constructible Solutions!

Location	No.	Client	Project Type	Levels	Basement	Country	State	Foundation/Solution	Consulting Services
-98.9955556,19.6197222	93	GALLAECIA, S.A de C.V.	Gas Station	NA	NA	Mexico	Edo.	Mat	Excavation and Foundation Design
-99.6296161,19.264519	94	VILLA DEL PARQUE TOLUCA, S.A. de C.V.	Hotel	3	NA	Mexico	Edo.	Footings	Foundation Design
-99.1481268,19.4026735	95	C.P. JORGE BUENFIL C.	Condominium	5	1	Mexico	DF	Mat	Excavation and Foundation Design
-99.180431,19.4385371	96	ZYMAN Y ZYMAN, S. A de C.V.	Condominium	27	4	Mexico	DF	Drilled Shafts	Foundation Design, Dewatering Plan, and Excavation
-98.1908491,19.042314	97	SAN FRANCISCO PLUS, S.A. de C.V.	SEARS	3	NA	Mexico	DF	Mat	Foundation Design
-99.187821,19.3761654	98	AYESA	Tunnel	NA	NA	Mexico	DF	Portal Stability, Finitate Element Analysis, Excavation Phase for NATM	NATM, Portal Stability, Excavation Phase, TBM
-99.1011371,19.356192	99	AYESA	Diaphragm Walls	NA	NA	Mexico	DF	Diaphragm Wall design, Cross struts, and Dewatering	Diaphragm Wall Design and Dewatering
-99.2199143,19.4101315	100	Embassy of Canada	Residence	2	1	Mexico	DF	Footings	Foundation and Excavation Design
-99.1751036,19.3923296	101	CASAS Y DESARROLLO VITA, S.A. de C.V.	Condominium	9	1	Mexico	DF	Drilled Shafts	Excavation and Foundation Design
-99.211088,19.485708	102	JAR STATE CORP, S.A. de C.V.	Condominium	5	1	Mexico	DF	Drilled Shafts	Excavation and Foundation Design
-99.1237546,19.3578385	103	AYESA	Diaphragm Walls	NA	NA	Mexico	DF	Diaphragm Wall design, Cross struts, and Dewatering	Diaphragm Wall Design and Dewatering
-103.267791,20.6208	104	SIEMENS, S.A. de C.V.	Slope Stability	NA	NA	Mexico	Jalisco	6-Strand Post-Tensioned Anchors	Slope Stability Analysis and Anchor Design

Location	No.	Client	Project Type	Levels	Basement	Country	State	Foundation/Solution	Consulting Services
-96.111857,19.140828	105	SR. JOSE MANUEL PARDAVILA LOPEZ	Hotel	10	1	Mexico	Veracruz	Drilled Shafts	Retaining Structure, Excavation, and Foundation Design
-96.155069,19.199463	106	MC, CIMENTACIONES Y ESTRUCTURAS, S.A. de C.V.	Gas Station	NA	NA	Mexico	Veracruz	Footings	Excavation and Foundation Design
-105.237114,20.596297	107	TECNOLOGIAS OPERATIVAS EN PROYECTOS Y SUPERVISION, S.A. DE C.V.	Condominium	4	NA	Mexico	Jalisco	Drilled Shafts	Excavation and Foundation Design
-86.772165,21.141329	108	GIC S.A. de C.V.	Condominium	18	NA	Mexico	Quintana Roo	Drilled Shafts	Retaining Structure, Excavation, and Foundation Design
-98.032933,19.050059	109	SEGURA Y GUERRA CONSTRUCCIONES, S.A DE C.V.	Toll Plaza	1	NA	Mexico	Puebla	Footings	Geotechnical Consulting
-99.732584,20.473006	110	COMPAÑÍA MINERA NUEVO MONTE, S.A. DE C.V.	Slope Stability	NA	NA	Mexico	Hidalgo	6-Strand Post-Tensioned Anchors	Slope Stability Analysis and Anchor Design
-99.2309963,18.7743552	111	INMOBILIARIA COLUMBIA, S.A. de C.V.	Condominium	2	NA	Mexico	Morelos	Footings	Geotechnical Consulting
-101.1581554,19.6888699	112	JC CONSTRUCCIONES Y SERVICIOS TECNICOS, S.A. de C.V.	Condominium	2	NA	Mexico	Michoacan	Footings	Geotechnical Consulting
-101.1944865,19.6725062	113	SR. HECTOR ALVAREZ GALLEGOS	Condominium	9	NA	Mexico	Morelia	Footings	Retaining Structure, Excavation, and Foundation Design
-89.2048117,13.7750736	114	SIEMENS, S.A. de C.V.	Power Plant	NA	NA	El Salvador	Nejapa	Slope Stability Analysis and Anchor Design	Geotechnical Consulting
-99.5098686,18.6696653	115	ARIES, COMUNICACIÓN GRAFICA, S.A de C.V.	Warehouse	1	NA	Mexico	Guerrero	Footings	Foundation Design
-103.3749087,20.6937718	116	GRUPO INMOBILIARIA ALTIVA, S.A. de C.V.	Condominium	18	NA	Mexico	Jalisco	Drilled Shafts	Retaining Structure, Excavation, and Foundation Design

RBM Project List

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Location	No.	Client	Project Type	Levels	Basement	Country	State	Foundation/Solution	Consulting Services
-74.1411046,4.6971504	117	BVNA	Airport Expansion	4	NA	Colombia	Bogota	Pre-Charge and Wick Drains	Consolidation Settlement Acceleration
-99.0989649,21.5998365	118	MADERABLE, S.A. de C.V.	Lookout Platforms	NA	NA	Mexico	San Luis Potosi	Wood Pile	Geotechnical Consulting
-99.7770559,16.7736916	119	Puerto Liverpool, S.A. de C.V.	Shopping Center	2	NA	Mexico	Guerrero	Drilled Shafts	Geotechnical Consulting
-104.697465,19.2288173	120	QUAR CONSTRUCTORA, S.A. de C.V.	Gas Station	NA	NA	Mexico	Jalisco	Footings	Excavation and Foundation Design
-96.5449333,28.6975144	121	Formosa Plastic Company	Pipe Rack	NA	NA	USA	Texas	Driven Piles	Geotechnical Consulting
-109.9068115,22.881879	122	FREL, INGENIEROS Y ARQUITECTOS, S.A. de C.V.	Beach Club	NA	NA	Mexico	BCS	Retaining Wall- Gravity	Geotechnical Consulting
-98.1916158,19.0428681	123	SAN FRANCISCO PLUS, S.A. de C.V.	SEARS	3	NA	Mexico	Puebla	Drilled Shafts	Geotechnical Consulting
-100.1703617,25.7023387	124	BVNA	Industrial	2	1	Mexico	Nuevo Leon	Retaining Wall- Soil-Cement	Geotechnical Consulting
-109.9071199,22.8815871	125	Rafael Marcos Dayan y Cop.	Beach Club	4	NA	Mexico	BCS	4-Strands Post-Tensioned Anchors	Geotechnical Consulting
-96.1902646,19.1719409	126	MILENIO INGENIERIA Y DISEÑO, S.A. de C.V.	Tank	NA	NA	Mexico	Veracruz	Circular Foundation	Geotechnical Consulting
-90.1551085,29.9969389	127	TXDOT	Bridge Foundation	NA	NA	USA	LA	Driven Piles	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-90.1553199,30.0012003	128	TXDOT	Bridge Foundation	NA	NA	USA	LA	Driven Piles	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-91.1025366,30.4073699	129	TXDOT	Bridge Foundation	NA	NA	USA	LA	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-91.0389823,30.3573165	130	TXDOT	Bridge Foundation	NA	NA	USA	LA	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT

Location	No.	Client	Project Type	Levels	Basement	Country	State	Foundation/Solution	Consulting Services
-93.8646716,32.8530067	131	TXDOT	Bridge Foundation	NA	NA	USA	LA	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-93.8790531,32.8231461	132	TXDOT	Bridge Foundation	NA	NA	USA	LA	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-93.2305042,30.5105943	133	TXDOT	Bridge Foundation	NA	NA	USA	LA	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-91.2869449,39.4675572	134	TXDOT	Bridge Foundation	NA	NA	USA	MO	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-93.6884262,38.7736536	135	TXDOT	Bridge Foundation	NA	NA	USA	MO	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-106.0821457,36.0580342	136	TXDOT	Bridge Foundation	NA	NA	USA	NM	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-106.6918652,35.1067181	137	TXDOT	Bridge Foundation	NA	NA	USA	NM	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-99.9588662,34.5798123	138	TXDOT	Bridge Foundation	NA	NA	USA	OK	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-106.5644169,31.7988122	139	TXDOT	Bridge Foundation	NA	NA	USA	NM	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-91.7909639,33.6289974	140	TXDOT	Bridge Foundation	NA	NA	USA	AR	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT

RBM Project List

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Location	No.	Client	Project Type	Levels	Basement	Country	State	Foundation/Solution	Consulting Services
-90.1851169,35.1696446	141	TXDOT	Bridge Foundation	NA	NA	USA	AR	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-94.4923779,36.1439855	142	TXDOT	Bridge Foundation	NA	NA	USA	AR	Drilled Shafts	Research- Field Drilling and Sampling- LRFD-TCP-BDLT-TLT
-94.5889395,36.0925039	143	AH Beck Foundations Co., Inc.	Geotechnical Review	NA	NA	USA	OK	Rock Socketed Length	Geotechnical Consulting
-77.029171,38.929887	144	Griggs Engineering	Support of Excavation	NA	NA	USA	DC	Soldier Piles	Geotechnical Consulting
-77.0248035,38.9301903	145	Griggs Engineering	Support of Excavation	NA	NA	USA	DC	Soldier Piles	Geotechnical Consulting
-100.3888996,20.6136556	146	Cpromex	Slope Stability	NA	NA	Mexico	Queretaro	6-Strand Post-Tensioned Anchors	Slope Stability Analysis and Anchor Design
-98.3118323, 29.4569777	147	AH Beck Foundations Co., Inc.	Flag Pole	NA	NA	USA	Texas	Drilled Shaft	Geotechnical Consulting

ATTACHMENT B



ROZBEH B. MOGHADDAM, P.E., PH.D.

Education

Doctor of Philosophy (Ph.D.), Civil Engineering (Geotechnical), Texas Tech University	2016
Master of Business Administration (MBA), Eastern New Mexico University	2011
BSCE and MSCE, Instituto Politecnico Nacional, Mexico City, Mexico	2003

Professional License

Licensed Professional Engineer, Texas, Civil # 119046

Licensed Professional Engineer, New Mexico, Civil # 26118

Experience

2019- Present President	RBM Consulting Group, Inc. Consulting Company	San Antonio, TX
2016-2019 Senior Engineer	GRL Engineers, Inc. Deep Foundation Testing Company	Cleveland, OH
2012-2016 Research Assistant	Texas Tech University	Lubbock, TX
2005-2012 Senior Engineer	YZMO Geotecnia S.C. Geotechnical Consulting and Construction	Mexico City, Mexico
2002-2005 Staff Engineer	Bureau Veritas North America Specialty Consulting Company	Miami, FL

Professional Affiliations

- The International Association of Foundation Drilling (ADSC)
- Deep Foundations Institute (DFI)
- American Society of Civil Engineers (ASCE)
- International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE)

Seminar and Short Courses

Foundation Engineering Course

Ohio State University

Speaker on Introduction to Wave Mechanics and Pile Driving, March 2019, Columbus, OH

Foundation Engineering Course

University of Wisconsin-Madison

Speaker on Drilled Shaft and ACIP Pile Design and Geothermal Foundations January 2018, Madison, WI

Seminar and Short Courses (Continued)

Short Course

Fundamentals Concepts of Allowable Stress Design (ASD) and Load and Resistance Factor Design (LRFD), Cleveland, OH

ASCE Geo Institute Webinar

Speaker on Deep Foundations, July 2018, Cleveland, OH

ASCE Geo Institute Webinar

Speaker on Diaphragm Walls, July 2017, Cleveland, OH

Guest Lecturer

Texas Tech University

Speaker on Retaining Structures, April 2015, Lubbock, TX

Guest Speaker

Texas Tech University

Speaker on the Art of Communication, July 2015, Lubbock, TX

Guest Lecturer

Texas Tech University

Speaker on Tunneling, November 2013, Lubbock, TX

Guest Speaker

Eastern New Mexico University

Iran, a World Beyond Known, October 2010, Lubbock, TX

Publications

Moghaddam R.B., Rausche F., Hannigan P.J. (2019) Large Diameter Open-End Pipe Pile Driveability Analysis Including Geotechnical Friction Fatigue, DFI 44th Annual Conference on Deep Foundations, Chicago, IL

Hannigan P.J., Ryberg A., and **Moghaddam R.B.** (2019) Identification and Quantification of Pile Relaxation, DFI 44th Annual Conference on Deep Foundations, Chicago, IL

Hannigan, P. J., & **Moghaddam, R. B.** (2019, November) Use and Comparison of New QA/QC Technologies in a Test Shaft. In International Congress and Exhibition "Sustainable Civil Infrastructures" (pp. 64-87). Springer, Cham

Moghaddam, R. B., & Komurka, V. E. (2019) Modulus of Elasticity Impact on Equivalent Top-Loading Curves from Bi-Directional Static Load Tests

Moghaddam R.B., Hannigan P.J., Rausche F., Veslegard, G. (2018). Foundation Base Material Strength Assessment for Drilled Pipe Piles Using Force and Displacement Data, DFI 43rd Annual Conference on Deep Foundations, Anaheim, CA

Publications (Continued)

- Moghaddam, R. B., Jayawickrama, P. W., Lawson, W. D., Surles, J. G., & Seo, H. (2018). Texas cone penetrometer foundation design method: Qualitative and quantitative assessment. *DFI Journal-The Journal of the Deep Foundations Institute*, 1-12.
- Moghaddam, R. B., & Kim, M. (2019) Simplified Failure Mechanism for the Prediction of Tunnel Crown and Excavation Front Displacements. *Magazine of korean Tunnelling and Underground Space Association*, 21(1), 101-112.
- Moghaddam, R. B., & Komurka, V. E. (2019) Modulus of Elasticity Impact on Equivalent Top-Loading Curves from Bi-Directional Static Load Tests. In *Geo-Congress 2019: Foundations* (pp. 178-188). Reston, VA: American Society of Civil Engineers.
- Moghaddam, Rozbeh B., Daniel S. Belardo, George Piscsalko, Garland Likins (2019) "Conference: 10TH INTERNATIONAL CONFERENCE ON STRESS WAVE THEORY AND TESTING METHODS FOR DEEP FOUNDATIONS."
- Moghaddam, R. B., Jayawickrama, P. W., Lawson, W. D., Surles, J. G., & Seo, H. (2018). Texas cone penetrometer foundation design method: Qualitative and quantitative assessment. *DFI Journal-The Journal of the Deep Foundations Institute*, 12(2), 69-80.
- Hannigan, P. J., & **Moghaddam, R. B.** (2019). Use and Comparison of New QA/QC Technologies in a Test Shaft. In *International Congress and Exhibition "Sustainable Civil Infrastructures"* (pp. 64-87). Springer, Cham.
- Moghaddam, R. B., Hannigan, P. J., & Anderson, K. (2018) Quantitative Assessment of Drilled Shafts Base-Cleanliness Using the Shaft Quantitative Inspection Device (SQUID). In *IFCEE 2018* (pp. 575-588)
- Moghaddam, Rozbeh B., William D. Lawson, James G. Surles, Hoyoung Seo, and Priyantha W. Jayawickrama (2017). "Hammer Efficiency and Correction Factors for the TxDOT Texas Cone Penetration Test" *Geotechnical and Geological Engineering* 35, no. 5. 2147-2162.
- Moghaddam R.B., Rausche F., Webster S. (2017). "Friction Fatigue and Driveability Analysis of Open Ended Pipe Piles Based on Cone Penetration Testing Results", DFI 42nd Annual Conference on Deep Foundations, New Orleans, LA
- Moghaddam R.B., Jayawickrama P.W. (2016). "General Bearing Capacity Theory and Soil Extraction Method for the Mitigation of Differential Settlements", ASCE-Geotechnical Frontiers 2017
- Moghaddam R.B., Yzquierdo C.L., Jayawickrama P.W. (2016). "Feasibility of Diaphragm Wall with post-tensioned Anchors in Non-Controlled Fill Material", ASCE-Geotechnical and Structural Engineering Congress
- Moghaddam R.B., Yzquierdo C.L., Jayawickrama P.W. (2015). "Remediation of Differential Settlement in a Seven Story Building Using Sub-Excavation Method", International Conference on Geotechnical Engineering, Colombo, Sri Lanka

- Surles J.G., Deo H., Lawson W.D., Jayawickrama P.W., **Moghaddam R.B.**, Doerzbacher J. (2015). "Sample Size Determination for Resistance Factors in LRFD", ASCE International Journal of Geomechanics, Submitted
- Seo H., **Moghaddam R.B.**, Lawson W.D. (2015). "Assessment of Analysis Methods for Construction of Equivalent Pile Head Load-Settlement Curve using Results from O-Cell Test", Soils and Foundations, Vol. 56, No. 5
- Seo H., **Moghaddam R.B.** (2015). "Assessment of Analysis Methods for Construction of Equivalent Pile Head Load-Settlement Curve using Results from O-Cell Test", 11th Annual Young Professor Paper Competition, Deep Foundations Institute
- Seo, H., **Moghaddam, R. B.**, Surles, J. G., & Lawson, W. D. (2015). *Implementation of LRFD geotechnical design for deep foundations using Texas Cone Penetrometer (TCP) test* (No. FHWA/TX-16/5-6788-01-1). Texas Tech University. Center for Multidisciplinary Research in Transportation.
- Jayawickrama P.W., Lawson W.D., **Moghaddam R.B.** (2015). "Prediction of Axial Load Capacity Based on Texas Cone Penetrometer", International conference on Geotechnical Engineering
- Lawson W.D., Terrell E.O., Surles J.G., **Moghaddam R.B.**, Wood, T.A., Seo H., Jayawickrama, P.W., (2015). "Correlation of Texas Cone Penetrometer and Standard Penetration Test Blowcount Values", ASTM-Geotechnical Testing Journal, Under Review
- Lawson W.D., Terrell E.O., Surles J.G., **Moghaddam R.B.**, Wood, T.A., Seo H., Jayawickrama, P.W., (2015). "Correlation of Texas Cone Penetrometer and Standard Penetration Test N-Values", International Foundations Congress Equipment Expo (IFCEE)
- Moghaddam R.B., Lawson W.D. (2013). "Reliability Based Deep Foundation Design using Texas Cone Penetrometer", Southeast Transportation Geotechnical Engineering Conference, Baton Rouge, LA
- Emadi H., Soliman M., **Moghaddam R.B.** (2014). "An Experimental Study of the Swelling Properties of Unconventional Shale-Oil Rock Samples Using both Water-Based and Oil-Based Muds and Effects of Invasion on Rock Mechanical Properties", Society of Petroleum Engineers (SPE)
- Emadi H., Samuel R., **Moghaddam R.B.** (2014). "Effect of Temperature on the Compressive Strength of Eagle Ford Oil Shale Rock: An Experimental Study", Society of Petroleum Engineers (SPE)
- Emadi H., Soliman M., **Moghaddam R.B.** (2013). "Experimental Study of the Swelling Properties of Unconventional Shale Oil and the Effects of Invasion on Compressive Strength" Society of Petroleum Engineers (SPE)

Experience

2019-Present	RBM Consulting Group, Inc.	San Antonio, TX
Senior Consultant		
Geotechnical Consulting Company		
2014-Present	A.H. Beck Foundation Co.	Houston, TX
Executive Vice President		
Industry Leading Deep Foundation Specialty Contractor		
1996-2013	Berkel & Company Contractors	Richmond, TX
Vice President/Regional Manager		
Deep Foundation Contractor Specializing in ACIP Piles		
1989–1996	Fugro-McClelland Consultants	Houston, TX
Project Manager		
International Geotechnical Engineering Consulting Firm		

Education

1988–1989	University of Texas at Austin	Austin, TX
▪ Master of Science in Engineering ▪ Geotechnical Engineering Graduate Program		
1983–1987	University of Nebraska-Lincoln	Lincoln, NE
▪ Bachelor of Science in Civil Engineering ▪ Chi Epsilon National Civil Engineering Honor Society		

Professional Registrations

Professional Engineer – State of Texas (1992)
Professional Engineer, Civil Engineering – State of Louisiana (1994)

Professional Affiliations

Diplomate, Geotechnical Engineering – Academy of Geo-Professionals
Member – American Society of Civil Engineers
Member – Geo-Institute of ASCE
Member – International Society for Soil Mechanics and Geotechnical Engineering
Member – Deep Foundations Institute
Current: Chairman - Educational Trust Board
President (2005-2006)
Vice President (2003-2004)
Member of the Board of Trustees (2001-2009)
Trustee Liaison to the Augered Cast-In-Place Pile Committee (2001-04, 2008-09)
Chairman – Augered Cast-In-Place Pile Committee (1998-2000)
Member – ADSC – The International Association of Foundation Drilling

**Technical
Papers and
Articles**

“Computer Methods for Settlement Analyses of Piles” (Sole Author)
Proceedings of the 2nd Congress on Computing in Civil Engineering
American Society of Civil Engineers, June 1995, Atlanta, GA

“Shear Wave Velocities of Gulf Coast Soils Determined from Crosshole and Seismic Cone Penetration Tests” (Co-Author)
Proceedings of the Symposium on the Application of Geophysics to Engineering and Environmental Problems
Environmental and Engineering Geophysical Society, April 1996, Keystone, CO

“Computer Application of CLM Lateral Load Analysis to Piles and Drilled Shafts” (Co-Author)
Journal of Geotechnical Engineering, Vol. 122, No. 6
American Society of Civil Engineers, June 1996

“Defect Detection” (Co-Author)
Feature Article in *Civil Engineering Magazine*
American Society of Civil Engineers, July 1996

“Comparison of Crosshole and Singlehole Sonic Integrity Logging Methods” (Co-Author)
Proceedings of the 5th International Conference on the Application of Stress Wave Theory to Piles
University of Florida, September 1996, Orlando, FL

“Evaluation of Defect Detection During Pile Curing Using Sonic Integrity Logging Methods” (Co-Author)
Proceedings of the 5th International Conference on the Application of Stress Wave Theory to Piles
University of Florida, September 1996, Orlando, FL

“Case History: Use of Rock-Socketed Augered Cast-In-Place Piles” (Co-Author)
Proceedings of the 23rd Annual Conference of the Deep Foundations Institute
Deep Foundations Institute, October 1998, Seattle, WA

“Case History: Use of Rock-Socketed Auger Pressure Grouted Piles in Fort Worth, Texas” (Co-Author)
Proceedings of the Texas Section Spring 1999 Meeting
American Society of Civil Engineers-Texas Section, April 1999, Longview, TX

“Self Assessment of Geotechnical Engineering Practice in Houston” (Co-Author)
Geo-Houston '99 White Paper
University of Houston, March 1999, Houston, TX

“Case History: Estimating Ground Vibrations Caused by Pile Driving” (Co-Author)
Proceedings of the 24th Annual Meeting of the Deep Foundations Institute
Deep Foundations Institute, October 1999, Dearborn, MI

**Technical
Papers and
Articles**
(continued)

“New Technologies for Quality Control of Augered Cast-In-Place Piles”
(Sole Author)
Proceedings of the Augered Cast-In-Place Piles Specialty Seminar
Deep Foundations Institute, May 2000, St. Louis, MO

“Old and New Quality Control Options for Augered Cast-In-Place Piles”
(Sole Author)
*New Technological and Design Developments in Deep Foundations (Geotechnical
Special Publication No. 100)*
Proceedings of the Geo-Denver 2000 Conference
American Society of Civil Engineers, August 2000, Denver, CO

“Constructibility of Augered Cast-in-Place Piles” (Sole Author)
Feature Article in *Geo-Strata Magazine*
Geo Institute, ASCE, July 2003

“Monitoring of Drilling Resistance for Augered Cast-in-Place Piles” (Sole Author)
Proceedings from the Michael W. O'Neill Auger Cast-in-Place Pile Sessions
83rd Annual Transportation Research Board Meeting, January 2004,
Washington, DC (FHWA Publication)

“New Trends in Auger Pressure Grouted Piles” (Sole Author)
Proceedings of the CIGMAT 2004 Conference
University of Houston, March 2004, Houston, TX

“Evaluation of Grout Strength Gain within Augered Cast-in-Place Piles using Concrete
Maturity Meter” (Co-Author)
Proceedings of the Texas Section Spring 2004 Meeting
Winner of Best of Session Award
American Society of Civil Engineers – Texas Section, April 2004, South Padre Island, TX

Invited Paper: “Advances in Auger Pressure Grouted Piles: Design, Construction and
Testing” (Co-Author)
*Proceedings of Geo-Frontiers Conference and Advances in Designing and Testing Deep
Foundations (Geotechnical Special Publication No. 129)*
Geo Institute, ASCE, January 2005, Austin, TX

“Load Displacement Behavior of ACIP Piles in Cohesive Soils” (Co-Author)
*Proceedings of the 2009 International Foundation Congress and Contemporary Topics
in Deep Foundations (Geotechnical Special Publication No. 185)*
Geo Institute, ASCE, March 2009, Orlando, FL

“Behavior of ACIP Piles in Cohesive Soils” (Co-Author)
Proceedings of the Texas Section Fall 2009 Meeting
Winner of Best of Session Award
American Society of Civil Engineers – Texas Section, October 2009, Houston, TX

“Thermal Conductivity Analysis of Geothermal Energy Piles” (Co-Author)
Proceedings of the Geotechnical Challenges in Urban Regeneration Conference
Deep Foundations Institute and European Federation of Foundation Contractors
May 2010, London, England

**Technical
Papers and
Articles**
(continued)

“Thermal Conductivity Evaluation of a Pile Group Using Geothermal Energy Piles”
(Co-Author) *Proceedings of the Geo-Frontiers 2011 Conference*
Geo-Institute of ASCE,
March 2011, Dallas, Texas

“Thermal Conductivity Testing of Energy Piles: Field Testing and Numerical Modeling”
(Co-Author) *Proceedings of the GeoCongress 2012 Conference*
Geo-Institute of ASCE
March 2012, Oakland, CA

Industry Guideline: *Guideline for the Interpretation of Nondestructive Integrity Testing of Augered Cast-in-Place and Drilled Displacement Piles* (Principal Author)
Publication of the Deep Foundations Institute, 2012, Hawthorne, NJ

“Thermal Conductivity Testing of Energy Piles: Field Testing and Numerical Modeling”
(Co-Author) *Proceedings of the GeoCongress 2012*, Geo-Institute of ASCE, March 2012, Oakland, CA

“Assessing the Applicability of Thermal Response Testing to Energy Piles” (Co-Author)
Proceedings of the International Conference on Pilings and Deep Foundations
Deep Foundations Institute and European Federation of Foundation Contractors
May 2014, Stockholm, Sweden

“The Thermal Behavior of Three Different Auger Pressure Grouted Piles Used as Heat Exchangers” (Co-Author)
Geotechnical and Geological Engineering Journal, May 2014
Springer International Publishing

“Thermo-Mechanical Behavior of Energy Piles: Full-Scale Field Test Verification”
(Co-Author)
Proceedings of the 39th Annual Conference of the Deep Foundations Institute
Deep Foundations Institute
October 2014, Atlanta, GA

“Full Scale Field Testing of Energy Piles” (Co-Author)
Proceedings of the IFCEE 2015 Conference (Geotechnical Special Publication No. 256)
Geo-Institute of ASCE
March 2015, San Antonio, TX

“Innovative Ground Improvement Solutions for ASTs on Soft Soils” (Sole Author)
Feature Article in *Tank Storage Magazine*
March-April 2015

“Group Thermal Response Testing for Energy Piles” (Co-Author)
Proceedings of the European Conference on Soil Mechanics and Geotechnical Engineering XVI, ECSMGE
September 2015, Edinburgh, Scotland

“Comparison of Load Test Results Between ACIP Piles Installed in Sand in Pre-Drilled Holes Versus Conventional Installation” (Co-Author)
Proceedings of the 40th Annual Conference of the Deep Foundations Institute
Deep Foundations Institute
October 2015, Oakland, CA

“A Low Headroom Solution” (Sole Author)
Feature Article in *Deep Foundations Magazine*
Deep Foundations Institute, November-December 2015

**Technical
Papers and
Articles**
(continued)

“Full-Scale Test Study of Skin Friction Development in Sand for ACIP Piles under Compressive and Tensile Loading Conditions for Bridge Support” (Co-Author)
Proceedings of the IFCEE 2018 Conference (Geotechnical Special Publication No. 294)
Geo-Institute of ASCE
March 2018, Orlando, FL

“Innovative Pile Extraction Technique of CFA Piles for the New Harbor Bridge Project”
Proceedings of the International Conference on Pilings and Deep Foundations
Deep Foundations Institute and European Federation of Foundation Contractors
June 2018, Rome, Italy

“Extracted ACIP Piles for the New Harbor Bridge Project” (Sole Author)
Feature Article in *Deep Foundations Magazine*
Deep Foundations Institute, September-October 2018

“Innovative Riverbank Erosion Control Retaining Wall for the Brazos River” (Co-Author)
Proceedings of the 43th Annual Conference of the Deep Foundations Institute
Deep Foundations Institute
October 2018, Anaheim, CA

“Drilled Shafts Providing the Solid Support Needed for the Houston Ship Channel Bridge”
(Sole Author)
Feature Article in *Foundation Drilling Magazine*
ADSC, February-March 2019

**Seminar and
Short Course
Presentations**

Installation of Augered Cast-In-Place Piles Specialty Seminar on Augered Cast-In-Place Piles
Deep Foundations Institute, June 1997, Orlando, FL

Installation of Augered Cast-In-Place Piles
Specialty Seminar on Augered Cast-In-Place Piles
Deep Foundations Institute, November 1998, Houston, TX

**Installation of Augered Cast-In-Place Piles and
New Technologies for Quality Control of Augered Cast-In-Place Piles**
Specialty Seminar on Augered Cast-In-Place Piles
Deep Foundations Institute, May 2000, St. Louis, MO

New Technologies for Quality Control of Augered Cast-In-Place Piles
Seminar on the Quality Control of Deep Foundations
American Society of Civil Engineers-Cleveland Section, April 2001, Cleveland, OH

Installation of Augered Cast-In-Place Piles
Specialty Seminar on Augered Cast-In-Place Piles
Deep Foundations Institute, May 2001, Pittsburgh, PA

Augered Cast-In-Place Piles Short Course
One Day Short Course on Augered Cast-In-Place Piles
Geo-Institute, ASCE, February 2002, Orlando, FL

Installation of Augered Cast-In-Place Piles
Specialty Seminar on Augered Cast-In-Place Piles
Deep Foundations Institute, May 2002, San Francisco, CA

**Seminar and
Short Course
Presentations**
(continued)

Installation of Augered Cast-In-Place Piles

Specialty Seminar on Augered Cast-In-Place Piles
Deep Foundations Institute, May 2003, Atlanta, GA

Design, Installation and Quality Control for Auger Pressure Grouted (APG) Piles and Auger Pressure Grouted Displacement (APGD) Piles

University of Houston Continuing Education Short Course
Dept of Civil & Environmental Engineering, March 2004, Houston, TX

Installation of Augered Cast-In-Place Piles

Specialty Seminar on Augered Cast-In-Place Piles
Deep Foundations Institute, May 2004, New York City, NY

Case Histories of Auger Pressure Grouted (APG) Piles

University of Houston Continuing Education Short Course
Dept of Civil & Environmental Engineering, November 2004, Houston, TX

Design, Installation and Quality Control for Auger Pressure Grouted (APG) Piles and Auger Pressure Grouted Displacement (APGD) Piles

13th Annual Building Professional Institute
The University of Texas at Arlington, May 2005, Arlington, TX

Augered Cast-in-Place (ACIP) Piles: Design, Construction, Load Test and Case Studies

Geo-Denver Conference Short Course
Geo Institute of ASCE, February 2007, Denver, CO

Design and Construction of ACIP Piles for Foundations and Retention Systems

University of Houston Continuing Education Short Course
Dept of Civil & Environmental Engineering, January 2008, Houston, TX

Automated Monitoring of CFA Piles

33rd Southwest Geotechnical Engineers Conference
Texas Department of Transportation, April 2008, Corpus Christi, TX

History and Installation of ACIP Piles

SuperPile 08 Specialty Seminar
Deep Foundations Institute, April 2008, Philadelphia, PA

Design and Construction of ACIP Piles for Foundations and Retention Systems

University of Houston Continuing Education Short Course
Dept of Civil & Environmental Engineering, February 2009, Houston, TX

Augered Cast-In-Place Piles Short Course

One Day Short Course on Augered Cast-In-Place Piles
Geo-Institute, ASCE, March 2009, Orlando, FL

Sustainability Seminar

One Day Short Course on Sustainability Issues with Deep Foundations
Speaker on Energy Piles in the US
Deep Foundations Institute, October 2010, Los Angeles, CA

New Developments in Auger Pressure Grouted (APG) Piles

University of Houston Continuing Education Short Course
Dept of Civil & Environmental Engineering, February 2011, Houston, TX

Augered Cast-In-Place Piles Short Course

One Day Short Course on Augered Cast-In-Place Piles
Geo-Institute, ASCE, March 2011, Dallas, TX

**Seminar and
Short Course
Presentations**
(continued)

Geothermal Energy Pile Systems Seminar at the International Bridge Conference
Speaker on Thermal Conductivity Evaluation of a Pile Group Using Geothermal Energy Piles
Sponsored by the Deep Foundations Institute
June 2011, Pittsburgh, PA

Augered Cast-In-Place Piles Short Course
One Day Short Course on Augered Cast-In-Place Piles
Deep Foundations Institute, October 2012, Houston, TX

Geo-San Antonio 2014 Seminar
"Geotechnical Topics in the Energy Sector"
Speaker on Thermo-Mechanical Load Testing of Energy Piles in Texas
Geo-Institute San Antonio Chapter/The University of Texas at San Antonio
March 2014, San Antonio, TX

Foundation Engineering and Design Short Course
University of Wisconsin-Madison
Speaker on Drilled Shaft Design and Geothermal Foundations
January 2016, Madison, WI

Texas Civil Engineering Conference
Texas Section of the Geo-Institute of ASCE
Speaker on Energy Piles and Thermal Integrity Profiling (2 presentations)
September 2016, San Marcos, TX

Foundation Engineering and Design Short Course
University of Wisconsin-Madison
Speaker on Drilled Shaft Design and Geothermal Foundations
January 2017, Madison, WI

Foundation Engineering and Design Short Course
University of Wisconsin-Madison
Speaker on Drilled Shaft and ACIP Pile Design and Geothermal Foundations
January 2018, Madison, WI

Energy Foundations Seminar
Sponsored by the Deep Foundations Institute
University of Illinois - Chicago
Speaker on Thermal Conductivity Analyses of Energy Piles
September 2018, Chicago, IL

Louisiana Civil Engineering Conference
Invited Speaker on Best Practices for Design and Installation of ACIP Piles in Louisiana
September 2018, Kenner, LA

Foundation Engineering and Design Short Course
University of Wisconsin-Madison
Speaker on Drilled Shaft and ACIP Pile Design and Geothermal Foundations
February 2019, Orlando, FL

Education

Ph.D. in Chemical Engineering, McGill/AKU University	1999
M.Sc. in Chemical Engineering, Amirkabir University of Technology	1996
B.Sc. in Petrochemical Engineering, Amirkabir University of Technology	1994

Experience

Department of Chemical and Biomolecular Engineering, Rice University

Adjunct Professor and Lecturer

Sep 2014 – Present

Instructor

Sep 2014 – May 2015

- **Research (Production Optimization, Flow Assurance, Multiphase Flow)**

Chaired and co-chaired 18 doctoral students and 65 master's students

Served as committee member for 35 doctoral and 95 master's students

- **Teaching**

Course Name	Course Level	Semester
Multiphase Flow	Undergraduate	Fall
Advanced Flow Assurance	Graduate	Spring
Thermodynamics	Undergraduate	Fall/Spring

Microsilicon Startup

May 2016 – May 2018

- Engineered drilling program for horizontal wells in the Permian Basin

Professor, Chemical and Petroleum Engineering Department, Sharif University of Technology

Sept 2000 – Aug 2019

Teaching Assistant

Aug 2011 – Aug 2014

- Taught advanced drilling and production courses to more than 1,000 senior students

PVT Project Manager, TexoPed Ltd.

Feb 2017 – Jun 2019

Secretary-General, IFPE

Jun 2018 – Dec 2019

Professional Affiliations

- Society of Professional Engineers (SPE)
- World Chemical Engineering Council (WCEC)
- American Institute of Chemical Engineering (AIChE)
- Asia Pacific Confederation on Chemical Engineering (APCChE)

Awards

- 2016 Technical Editorial Award, Society of Petroleum Engineers, SPE, 2016.
- Among the top 20 most prolific faculty members in 2009 at Sharif University of Technology.
- 2009 Young Distinguished Professor, Elected by IACHE.
- 2009 Youngest Full Professor at Sharif University of Technology.
- Visiting Professor, Center for Hydrate Research, Department of Chemical Engineering, Colorado School of Mines, Golden, Colorado, USA.
- Pre-doctoral Fellowship, Department of Chemical Engineering, McGill University, Montreal, Quebec, Canada.
- Exploratory Scientific Research Visit (ESRV) granted by the British Council, 2004.
- Exploratory Scientific Research Visit (ESRV) granted by the British Council, 2005.
- Exploratory Scientific Research Visit (ESRV) granted by the British Council, 2006.
- 2008 Merit Scholarship Award, IDB, Bank Merit Scholarship Award.

Publications

- **Technical Papers**

- Journal Papers**

- Ali Mirzaalian Dastjerdi, Ali Kargozarfard, Zahra; Najafi, Bitia; Taghikhani, Vahid ; Ayatollahi, Shahab, "A microscopic insight into kinetics of inorganic scale deposition during smart water injection using dynamic quartz crystal microbalance and molecular dynamics simulation", Industrial & Engineering Chemistry Research, Manuscript ID: ie-2019-052364, 2020, in press.
- Hassanpouryouzband, Aliakbar; Joonaki, Edris; Taghikhani, Vahid; Bozorgmehry Boozarjomehry, Ramin; Chapoy, Antonin and Tohidi, Bahman, "A New 2-D Particle-Scale Model to Simulate Asphaltene Deposition in Wellbores and Pipelines" Energy and Fuel, Accepted for publication.
- Mohammad Ranjbaran, Saeed Shad, Vahid Taghikhani, Shahab Ayatollahi "A Heuristic Insight on End-Point Calculation and a New Phase Interference Parameter in Two-Phase Relative Permeability Curves for Horizontal Fracture Flow" Transport in Porous Media, 2017, in press.
- Abdolrasoul Ranjbaran, Mohammad Ranjbaran, Shahab Ayatollahi, Vahid Taghikhani, Saeed Shad, "Natural Finite Element Method: A New Proposal for Stiffness Calculation Using Natural Derivatives" NED UNIVERSITY JOURNAL OF RESEARCH, Volume: XIII, No: 7, Pages: 61-68 Date: July 2016.
- Mohammad-Reza Rokhforouz, Arash Rabbani, Shahab Ayatollahi and Vahid Taghikhani "Numerical Analysis of Heat Conduction Treated with Highly Conductive Copper Oxide Nanoparticles in Porous Media, International Journal of Special Topics & Reviews in Porous Media, Accepted for Publication.
- Ali Hoseini; Elnaz Zare; Shahab Ayatollahi; Francisco M Vargas; Walter G Chapman; Konstantinos Kostarelos, Vahid Taghikhani, "Electrokinetic behavior of asphaltene particles" Fuel, 2016, Accepted for Publication.
- Mahdavi, Ehsan; Zebarjad, Fatemeh Sadat; Ayatollahi, Shahab; Taghikhani, Vahid "Experimental Investigation on the Effect of Asphaltene Types on the Interfacial Tension of CO₂-Hydrocarbon Systems" Journal of Energy and Fuel, In press.

- Mohammadamin Sadeghia, Hossein Salamia, Vahid Taghikhania, Marc A. Robert, "A comprehensive study on CO₂ solubility in brine: Thermodynamic-based and neural network modeling" *Fluid Phase Equilibria*, 403 (2015) 153–159.
- Mohammad Reza Yassin, Shahab Ayatollahi, Behzad Rostami, Kamran Hasani, Vahid Taghikhani, "Micro-Emulsion Phase Behavior of a Cationic Surfactant at Intermediate Interfacial Tension in Sandstone and Carbonate Rocks" *Journal of Energy Resources Technology*, Vol. 137, (2015) 012905-1- 11.
- Ehtesabi, Hamide; Ahadian, Mohammad Mahdi; Taghikhani, Vahid, "Enhanced Heavy Oil Recovery Using TiO₂ Nanoparticles: Investigation of Deposition during Transport in Core Plug" *Journal of Energy and Fuel*, 2015, Accepted for publication.
- Ehsan Mahdavi, Fatemeh Sadat Zebarjad, Vahid Taghikhani and Shahab Ayatollahi, "Effects of Paraffinic Group on Interfacial Tension Behavior of CO₂-Asphaltenic Crude Oils Systems" *Journal of Chemical and Engineering Data*, 59 (8), 2014 2563-2569.
- Seyed Mahdi Seyedsar, Mohammad Hossein Ghazanfari and Vahid Taghikhani "Experimental investigation of simultaneous water and CO₂ (SWACO₂) injection for oil recovery in immiscible and near-miscible conditions: A comparative study" *the Canadian Journal of Chemical Engineering*, 92 (2014) 1791-1797.
- Ali Alizadeh; Mohammad Hossein Ghazanfari; Vahid Taghikhani; Amir Badakhshan, "Experimental investigation of water alternating CH₄-CO₂ mixture gas injection in light oil reservoirs" *International Journal of Oil, Gas and Coal Technology*, 8 (1), 2014 31-40.
- Mohammad Tavakkoli, Vahid Taghikhani, Mohammad Reza Pishvaie, Mohsen Masihi, Sai R. Panuganti, Walter Chapman, "Investigation of Oil-Asphaltene Slurry Rheological Behavior" *Journal of Dispersion Science and Technology*, (2014) Accepted for Publication.
- Mohammad Tavakkoli, Sai R. Panuganti, Vahid Taghikhani, Mohammad Reza Pishvaie, Walter Chapman, "Understanding the polydisperse behavior of asphaltenes during precipitation" *Fuel*, (20104) 206-217.
- Mohammad Tavakkoli, Sai R. Panuganti, Francisco M. Vargas, Vahid Taghikhani, Mohammad Reza Pishvaie, Walter Chapman, "Asphaltene Deposition in Different Depositing Environments: Part 1. Model Oil" *Energy and Fuel*, 28 (3), (2013) 1617-1628.
- Mohammad Tavakkoli, Sai R. Panuganti, Francisco M. Vargas, Vahid Taghikhani, Mohammad Reza Pishvaie, Walter Chapman, "Asphaltene Deposition in Different Depositing Environments: Part 2. Real Oil" *Energy and Fuel*, (2014) Accepted for Publication.
- Mohammad Tavakkoli, Sai R. Panuganti, Vahid Taghikhani, Mohammad Reza Pishvaie, Walter Chapman, "Precipitated Asphaltene Amount at High-Pressure and High-Temperature Conditions" *Energy and Fuel*, 28, (2014) 1596–1610.
- Hamideh Ehtesabi, Mohammad Mahdi Ahadian, Vahid Taghikhani, Mohammad Hossein Ghazanfari, "Enhanced Heavy Oil Recovery in Sandstone Cores Using TiO₂ Nanofluids" *Energy and Fuel*, 28 (1), (2014) 423-430.
- Taraneh Jafari Behbehani, Cyrus Ghotbi, Vahid Taghikhani and Abbas Shahrabadi, "Experimental Study and Modeling of Asphaltene Deposition Mechanism in Core Samples" *Oil and Gas Science and Technology*, (2013) DOI: 10.2516/ogst/2013128.
- Mohammad Hamed Raad, Mandana Tavakkoli, Iman Najafi, Hossein Ghazanfari, Vahid Taghikhani and Mohammad Amani, "Modeling the kinetics of asphaltene flocculation in toluene–pentane systems for the case of sonicated crude oils" *Scientia Iranica*, Vol. 20 (3), 2013, 613-616.

- Mohammad Bagher Sadeghi, Ahmad Ramazani Saadat Abadi, Vahid Taghikhani and Cyrus Ghotbi, "Experimental Investigation of Rheological and Morphological Properties of Water in Crude Oil Emulsions Stabilized by a Lipophilic Surfactant" the Journal of Dispersion Science and Technology, 34 (2013) 356-368.
- M. R. Moradi, A. N. Ahmadi, K. H. Nazari, C. Ghotbi and V. Taghikhani, "Experimental Study and Kinetic Modeling of Carbon Dioxide Hydrate Formation in the Presence of Ionic Liquids" Journal of Petroleum Research, 2013, 22 (72) 22-29.
- Sara Ahmad Kelayeh; Cyrus Ghotbi; Vahid Taghikhani; Amir Jalili "Correlation of Viscosity of Aqueous Solutions of Alkanolamine Mixtures Based on the Eyring's Theory and Wong-Sandler Mixing Rule" Iranian Journal of Chemistry and Chemical Engineering, Vol. 32, No. 2 (2013) pp. 9-17.
- Mohammad Safavi, Cyrus Ghotbi, Vahid Taghikhani, Amir Hossein Jalili, Ali Mehdizadeh, "Study of the Solubilities of CO₂, H₂S and Their Mixture in the Ionic Liquid 1-octyl-3-methylimidazolium Hexafluorophosphate: Experimental and Modeling", The Journal of Chemical Thermodynamics, 65 (2013) 220-232.
- Taraneh Jafari Behbehani, Cyrus Ghotbi, Vahid Taghikhani and Abbas Shahrabadi, "Asphaltene Deposition under Dynamic Conditions in Porous Media: Theoretical and Experimental Investigation" Energy and Fuel 27 (2013) 622-639.
- M. Allahyari, B. Aminshahidi, A. Sanati, Vahid Taghikhani, "Analysis of Near Well-Bore Behavior of Gas Condensate Reservoir in Production Stage" Journal of Petroleum Science and Technology, 30 (24), 2012 2594-2603.
- Amir Hossein Jalili, Mohammad Safavi, Cyrus Ghotbi, Ali Mehdizadeh, Masih Hosseini-Jenab and Vahid Taghikhani, "Solubility of CO₂, H₂S and their mixture in the ionic liquid 1-octyl-3-methylimidazolium Bis (trifluoromethyl)sulfonylimide", The Journal of Physical Chemistry, 116 (2012) 2758-2774.
- Taraneh Jafari Behbehani, Cyrus Ghotbi, Vahid Taghikhani and Abbas Shahrabadi, "Investigation on Asphaltene Deposition Mechanisms during CO₂ Flooding Processes in Porous Media: A Novel Experimental Study and a Modified Model Based on Multilayer Theory for Asphaltene Adsorption", Energy and Fuel 26 (2012) 5080-5091.
- Amir Hossein Jalili. Mohammad Safavi, Cyrus Ghotbi, Ali Mehdizadeh, Masih Hossein Jenab, Vahid Taghikhani, "Solubility of CO₂, H₂S and Their Mixture in the Ionic Liquid 1-Octyl-3-Methylimidazolium Bis(Trifluoromethyl)Sulfonylimide" The Journal of Physical Chemistry, 116 (2012) 2758-2774.
- Ahmnad Reza Ghobadi, Vahid Tgahikhani and Richard, E., Elliott, "Investigation on the Solubility of SO₂ and CO₂ in Imidazolium-Based Ionic Liquids Using NPT Monte Carlo Simulation", Journal of Physical Chemistry B, 115 (2011) 13599-13607.
- Sara Ahmad Kalayeh, Hossein Jalili, Cyrus Ghotbi Masih Hosseini Jenab and Vahid Taghikhani, "Densities, Viscosities, and Surface Tensions of Aqueous Mixtures of Sulfolane + Triethanolamine and Sulfolane + Diisopropanolamine", Journal and Chemical and Engineering Data, 56 (12), 2011 4314-4324.
- Shahla Shahriari, Manouchehr Vossoughi, Vahid Taghikhani, Ali Akbar Safekordi and Iran Alemzadeh, "Experimental Study and Mathematical Modeling of Partitioning of β -Amylase and Amyloglucosidase in PEG - Salt Aqueous Two-Phase Systems, Journal of Chemical and Engineering Data, 55 (11), 2010 4968-4975.

- H. Sakhaeina, A. Jalili, Vahid Taghikhani, A. A. Safekordi, "Solubility of H₂S in Ionic Liquids 1-Ethyl-3-methylimidazolium Hexafluorophosphate ([emim][PF₆] and 1-Ethyl-3-methylimidazolium is(trifluoromethyl)sulfonylimide ([emim][Tf₂N])" *Journal of Chemical and Engineering Data*, 55 (2010) 5839-5845.
- Amir Hossein Jalili, Ali Mehdizadehc, M. Shokouhi, H., V. Taghikhani, Ali Akbar Safekordi, "Safekordi "Solubility of H₂S in 1-(2-hydroxyethyl)-3-methylimidazolium" *The Journal of Chemical Thermodynamics*, 42 (6), 2010, 787-791.
- Hossein Sakhaeina, Vahid Taghikhani, Amir Hossein Jalili, Ali Mehdizadehc, Ali Akbar Safekordi, "Safekordi "Solubility of H₂S in 1-(2-hydroxyethyl)-3-methylimidazolium" *Fluid Phase Equilibria*, 298 (2) 2010, 303-309.
- M. Sadeghi, V. Taghikhani, C. Ghotbi, "Measurement and Correlation of Surface Tension for Single Aqueous Electrolyte Solutions" *International Journal of Thermophysics*, 31 (4-5), 2010 852-859.
- A. Alihosseini, Vahid Taghikhani, A.A. Safekordi, D. Bastani, "Equilibrium Sorption of Crude Oil by Expanded Perlite Using Different Adsorption Isotherms at 298.15 K", *International Journal of Science and Technology*, 7 (2010) 591-598.
- Leyla Yousefi, Vahid Taghikhani, Emaad Roayai, Ali Akbar Safekordi, M. Zahedzadeh, "Measurement and correlation of the saturation concentrations for single and mixed aqueous electrolyte solutions at various temperatures" *Desalination*, 258 (2010) 187-193.
- Leyla Yousefi, Emmad Roayai, Vahid Taghikhani, Ali Akbar Safekordi, M. Zahedzadeh, "Experimental Study and Modeling of Saturation Molality of NaCl in Quaternary Aqueous Electrolyte Solutions at Various Temperatures" *Desalination*, 267 (2010) 228-232.
- Amir Hossein Jalili, Ali Mehdizadeh, Mohammad Shokouhi, Hossein Sakhaie and Vahid Taghikhani, "Solubility of CO₂ in 1-(2-hydroxyethyl)-3-methylimidazolium ionic liquids with different anions" *Journal of Chemical Thermodynamics*, 42 (6), 2010 787-791.
- Najeh Al-Ali, Mahmood Reza Pishvaei and Vahid Taghikhani, "Neural Network Meta-modeling of Steam Assisted Gravity Drainage Oil Recovery Processes" *Iranian Journal of Chemistry and Chemical Engineering*, 29 (2010).
- Sh. Shahriari, V. Taghikhani, M. Vossoughi, A.A. Safe kordi, I . Alemzadeh, "Measurement of Measurement partition coefficients of beta-amylase and amyloglucosidase enzymes in aqueous two-phase systems containing poly(ethylene glycol) and Na₂SO₄/KH₂PO₄ at different temperatures" *Fluid Phase equilibria*, 292 (1), 2010, 80-86.
- G. R. Pazuki, Manouchehr Vossoughi and Vahid Taghikhani, "Partitioning of Penicillin G Acylase in Aqueous Two-Phase Systems of Poly(ethylene glycol) 20000 or 35000 and Potassium Dihydrogen Phosphate or Sodium Citrate" *Journal of Chem. & Eng. Data*, 55 (1), 2010 243-248.
- Mehdi Goharrokhi, Vahid Taghikhani, Cyrus Ghotbi and Ali Akbar Safekordi, "Correlation and Prediction of CO₂ Solubility in Amine Solutions" *Iranian Journal of Chemistry and Chemical Engineering*, (2010) 29, 1.
- N. S. Karbalaie, C. Ghotbi, V. Taghikhani, "Experimental Study and Modeling of Supercritical Extraction of Nicotine from Tobacco Leaves" *Journal of Chemistry and Chemical Engineering*, (2009) 28, 4.
- M. Sadeghi, V. Taghikhani, C. Ghotbi, "Application of the MSA-based models in correlating the surface tension for single and mixed electrolyte solutions" *The Journal of Chemical Thermodynamics*, 41 (11), 2009 1264-1271.

- G.R. Pazuki, V. Taghikhani, M. Vossoughi, C. Ghotbi "Prediction of the Partition Coefficients of Biomolecules in Polymer- Polymer Aqueous Two-Phase Systems using the Artificial Neural Network Model" *Journal of Particulate Science and Technology*, 28 (1), 2010 67-73.
- Kh. Khederlou, G.R. Pazuki, V. Taghikhani, M. Vossoughi, C. Ghotbi "Measurement and modeling process partitioning of Cephalixin antibiotic in aqueous two phase systems containing poly (ethylene glycol) 4000, 10000 and K₂HPO₄, Na₃Citrate" *Journal of Chem. & Eng. Data*, 54 (8), 2009 2239-2244.
- G. R. Pazuki, V. Taghikhani, M. Vosoughi, "Modeling of Aqueous Biomolecules Using a New Free-Volume Group Contribution Model" *Ind. and Eng. Chem. Res.* 48 (8), 2009 4109-4118.
- G. R. Pazuki, V. Taghikhani, M. Vosoughi, "Study of VLE phase behavior and correlating the thermophysical properties of polymer solutions using a local composition based model" *Journal of Applied Polymer Science*, 112 (3), 2009 1356-1364.
- Kh. Khederlou, G.R. Pazuki, V. Taghikhani, M. Vossoughi, C. Ghotbi "A new Gibbs energy model in obtaining Thermophysical properties of aqueous electrolyte solutions" *Journal of Solution Chemistry*, 38 (2), 2009 171-186.
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- Taghikhani, V., Modarress, H., Mansoori, G. A., (1997), "Prediction of the Thermodynamic Properties of Electrolytes: A New Approach", Proceeding of the 2nd International Conference on Chemical Engineering, Kerman, Iran.

Education

Ph.D. in Petroleum Engineering, Texas Tech University	2014
M.Sc. in Drilling Engineering, Petroleum University of Technology	2006
B.Sc. in Petroleum Engineering, Petroleum University of Technology	2003

Professional License

Licensed Professional Engineer, Texas, Petroleum # 128776

Experience

Bob L. Herd Department of Petroleum Engineering, Texas Tech University

George F. Watford Assistant Professor

Sep 2015 – Present

Instructor

Sep 2014 – May 2015

- **Research (Drilling, Completion, and Production)**

Chaired and co-chaired 10 doctoral students and two master's students

Served as committee member for two doctoral and eight master's students

- **Teaching**

Course Name	Course Level	Semester
Drilling II	Undergraduate	Fall 2015, 2016, and 2017
Horizontal Well Technology	Graduate	Fall 2014, Spring 2016, 2017, and 2018
Well Control Simulator	Undergraduate	Spring 2015

Drilling Engineer, Apache Corporation

May 2015 – Jul 2015

- Engineered drilling program for horizontal wells in the Permian Basin

Research Assistant, Petroleum Engineering Department, Texas Tech University

Aug 2011 – Aug 2014

- Conducted experimental research on effects of swelling and temperature on wellbore stability in Eagle Ford Shale reservoir
- Designed and Built a High-Pressure High-Temperature (HPHT) experimental setup to simulate downhole condition

Teaching Assistant

Aug 2011 – Aug 2014

- Taught advanced drilling and production courses to more than 1,000 senior students

Drilling & Wellsite Drilling Engineer, Petropars Ltd.

Feb 2008 – Jun 2011

- Managed offshore drilling operational problems such as curing lost circulation and killing wells
- Pioneered a procedure to analyze bit performance for optimal drilling, resulting in 20% reduction in drilling time
- Engineered casing string, wellbore trajectories, and drilling program for 12 offshore gas well

Drilling Supervisor Assistant, NIOC

Jun 2006 – Dec 2007

- Supervised and conducted onshore drilling and completion operations in oil and gas fields such as dry tests, DST, cementing, running tubing string, setting packer, and perforating

Researcher, Research Institute of Petroleum Industry

Jun 2005 – Jan 2006

- Conducted experimental research on effects of grain size distribution on cement performance

Professional Affiliations

- National Society of Professional Engineers (NSPE)
- Texas Society of Professional Engineers
- Society of Petroleum Engineers (SPE)
- American Association of Drilling Engineers (AADE)
- American Rock Mechanics Association (ARMA)

Awards

- George F. Watford Professorship recipient

Publications

- **Patent**
 1. Mahdi Ramezani, Hossein Emadi, and Mohamed Soliman, "A modified design for gravel packing with expandable rubber beads", Provisional Patent Application 62/837,485, filed April 2019. Patent Pending
- **Books**
 1. Co-Author of "Fracturing Horizontal Wells" book, Published by McGraw-Hill Education (ISBN: 978-1-25-958561-1), 2016
- **Technical Papers**

Journal Papers

1. Mahdi Ramezani, **Hossein Emadi**, "Investigating effects of temperature and confining pressure on dynamic elastic properties and permeability—An experimental study", Journal of Geomechanics for Energy and the Environment, (2020)100179, <https://doi.org/10.1016/j.gete.2020.100179>
2. Mahdi Ramezani, **Hossein Emadi**, Hong Wang, "Gravel Packing with Oil Swelling-Oil Swelling Rubber Particles", SPE 195293-PA, SPE Journal of Drilling & Completion, January 2020, <https://doi.org/10.2118/195293-PA>
3. Phillip McElroy, **Hossein Emadi**, Daniel Unruh, "Permeability and elastic properties assessment of Alumina nanofiber (ANF) cementitious composites under simulated wellbore cyclic pressure", Journal of Construction & Building Materials, <https://doi.org/10.1016/j.conbuildmat.2019.117867>
4. Saleh Ahmed, Fathi Elldakli, Lloyd Heinze, Khalid Elwegaa, **Hossein Emadi**, "Investigating Effects of the Ball Size on the Gas Throughput Using Partially Curved and Wholly Curved Seats", International Journal of Petroleum and Petrochemical Engineering (IJPPE), 2019, <http://dx.doi.org/10.20431/2454-7980.0503001>
5. Phillip McElroy, **Hossein Emadi**, Kazimierz Surowiec, Dominick J. Casadonte, "Mechanical, rheological, and stability performance of simulated in-situ cured oil well

- cement slurries reinforced with Alumina Nanofibers”, Journal of Petroleum Science and Engineering, Volume 183, December 2019, 106415, <https://doi.org/10.1016/j.petrol.2019.106415>
6. Alexander Anya, **Hossein Emadi**, Marshall Watson, “An Empirical Model for Calculating Uniaxial Compressive Strength of Oil Well Cements from Ultrasonic Pulse Transit Time Measurements”, Journal of Petroleum Science and Engineering Volume 183, December 2019, 106387, <https://doi.org/10.1016/j.petrol.2019.106387>
 7. Khalid Elwegaa, **Hossein Emadi**, “Improving Oil Recovery from Shale Oil Reservoirs Using Cyclic Cold Nitrogen Injection - An Experimental Study”, Journal of Fuel Volume 254, 15 October 2019, 115716, <https://doi.org/10.1016/j.fuel.2019.115716>
 8. Gamadi, T., **Emadibaladehi, S.**, Stockton, C. (2019). Effective Assessment Plan Leading to Strong Reform of Petroleum Engineering Graduate Program. ASEE PEER, <https://peer.asee.org/31569>
 9. Khalid Elwegaa, **Hossein Emadi**, Mohamed Soliman, Talal Gamadi, Mahmoud Elsharafi, “Improving Oil Recovery from Shale Oil Reservoirs Using Cyclic Cold Carbon Dioxide Injection - An Experimental Study”, Journal of Fuel Volume 254, 15 October 2019, 115586, <https://doi.org/10.1016/j.fuel.2019.05.169>
 10. Khalid Elwegaa, **Hossein Emadi**, “Effect of Thermal Shock on Porosity, Permeability and Rock Mechanical Properties of Unconventional Reservoirs”, Journal of Energies 2018, 11, 2131; doi:10.3390/en11082131
 11. Ehsanul Kabir, **Hossein Emadi**, Fathi Eldakli, Matt Young, “Investigating Effects of Ball Size on the Performance of Gas Lift Valve for both Modified and Optimized Seats”, Journal of Oil & Gas Science and Technology, <https://doi.org/10.2516/ogst/2018002>, Volume 73 (2018) 15
 12. Y. Pang, M. Y. Soliman, H. Deng, **Hossein Emadi**, “Analysis of Effective Porosity and Permeability in Shale Gas Reservoirs Considering Adsorption and Stress Effects”, 180260-PA, SPE Journal - 2017

Conference Proceeding Papers

1. Rayan Khalil, **Hossein Emadi**, Khalid Elwegaa, “Investigation of Rock Properties of The Marcellus Formation – An Experimental Study”, SPE-196580-MS, Charleston, West Virginia, Oct. 2019
2. Mahdi Ramezani, **Hossein Emadi**, Khalid Elwegaa, “An experimental study to investigate the effects of temperature and confining pressure on unconventional rock mechanical properties”, ARMA 19–1545, New York, NY, USA, June 2019
3. Mahdi Ramezani, **Hossein Emadi**, Hong Wang, “A Modified Design for Gravel Packing with Expandable Rubber Beads”, SPE 195293-M, San Jose, California, April 2019
4. Khalid Elwegaa, **Hossein Emadi**, Mahdi Ramezani, “Investigating Effects of Thermal Shock Technique on Unconventional Reservoir Rock Mechanical Properties” ARMA 19–344, New York, NY, USA, June 2019
5. R.A. Alouhali, M.Y. Soliman, **Hossein Emadi**, M. Amanullah, “Experimental Evaluation of the Swelling Behavior of Unconventional Shale Formation at and near the Wellbore in the presence of Various Drilling Fluid systems”, SPE-187594-MS, Presented SPE Kuwait Oil & Gas Show and Conference in Kuwait City, Kuwait, 15-18 October 2017.
6. A. Mansour, **Hossein Emadi**, Marshall Watson, Talal Gamadi, “Limitation of EOR Applications in Tight Oil Formation”, SPE-187542-MS, Presented SPE Kuwait Oil & Gas Show and Conference in Kuwait City, Kuwait, 15-18 October 2017.
7. Elias Pirayesh, Mohamed Y. Soliman, Stephen M. Morse, **Hossein Emadi**, “A Fully Coupled 3D Finite Element Investigation of Hydraulic Fracture Growth in Elastoplastic

- Rocks", SPE-181446-MS, Presented SPE Annual Technical Conference and Exhibition in Dubai, UAE, 26 – 28 September 2016.
8. Elias Pirayesh, Mohamed Y. Soliman, Stephen M. Morse, **Hossein Emadi**, "An Algorithm for the Calculation of Material Tangent Stiffness Tensor using Extended Sandler-Rubin Cap Plasticity Model in Finite Element Analysis", ARMA 16-237, Presented at 50th US Rock Mechanics/Geomechanics Symposium in Houston, USA, 26 – 29 June 2016.
 9. Elias Pirayesh, Mohamed Y. Soliman, Stephen M. Morse, **Hossein Emadi**, "A 3D Elastoplastic Finite Element Model to Determine Stress Distribution around Boreholes Drilled in Compactible Rocks", ARMA 16-529, Presented at 50th US Rock Mechanics/Geomechanics Symposium in Houston, USA, 26 – 29 June 2016.
 10. Y. Pang, M.Y. Soliman, H. Deng, **Hossein Emadi** "Effect of Methane Adsorption on Stress-Dependent Porosity and Permeability in Shale Gas Reservoirs" 180260-MS, Presented at the SPE Low Perm Symposium, Denver, Colorado, USA, 5-6 May 2016
 11. **Hossein Emadi**, Mohamed Y. Soliman, Robello Samuel, Lloyd R. Heinze "An Experimental Study of the Swelling Properties of Unconventional Shale Oil Rock Samples Using Both Water-Based and Oil-Based Muds and Effects of Invasion on Rock Mechanical Properties" SPE-173051-MS, Presented, 2015 SPE/IADC Drilling Conference, London, UK, 2015.
 12. **Hossein Emadi**, Mohamed Y. Soliman, Robello Samuel, Lloyd R. Heinze "An Experimental Study of the Swelling Properties of Unconventional Shale Oil Rock Samples Using Both Water-Based and Oil-Based Muds" SPE-170686-MS, Presented SPE Annual Technical Conference and Exhibition in Amsterdam, Netherlands, 27 – 29 October 2014.
 13. T.D. Gamadi, J.J. Sheng, M.Y. Soliman, H. Menouar, M.C. Watson, **H. Emadi**, "An Experimental Study of Cyclic CO₂ Injection to Improve Shale Oil Recovery" SPE-169142-MS, Presented, SPE Improved Oil Recovery Symposium, Tulsa, Oklahoma, USA, 12–16 April 2014.
 14. **Hossein Emadi**, Mohamed Y. Soliman, Robello Samuel, "Effect of Temperature on the Compressive Strength of Eagle Ford Oil Shale Rock: An Experimental Study" SPE-167928-MS, Presented, IADC/SPE Drilling Conference, Fort Worth, Texas, 4 – 6 March 2014.
 15. **Hossein Emadi**, Mohamed Y. Soliman, Robello Samuel, "Experimental Study of the Swelling Properties of Unconventional Oil Shale and the Effects of Invasion on Compressive Strength" SPE 166250-MS, Presented, SPE Annual Technical Conference and Exhibition, New Orleans, Louisiana, September 30th-October 2th 2013.
 16. Saeed Salehi, **Hossein Emadi**, Aboozar Mojdeh, Roohollah Darvishi, "Wellbore Stability Analysis at Iranian Carbonate Fields" Presented, International EAGE Conference, Shiraz, Iran, May 2009
 17. **Hossein Emadi**, Saeed Salehi, Aboozar Mojdeh, "Optimum Drilling Mud Design for South Pars Phases" in Second Gas Forum, Tehran, Iran, May 2008.

Education

Doctor of Philosophy, May 2010

University of Texas at Austin, Austin, Texas

Specialization in Geotechnical Engineering

Academic Award: *Thrust 2000–Robert L. Parker, Sr. Endowed Graduate Fellowship in Engineering*

Project: *NEES Grand Challenge: Seismic Risk Mitigation for Port Systems*

Dissertation: *Effect of Prefabricated Vertical Drains on Pore Water Pressure Generation and Dissipation in Liquefiable Sand*

Master of Business Administration, May 2005

University of Rhode Island, Kingston, Rhode Island (completed)

Northeastern University, Boston, Massachusetts (partial)

Academic Awards: *Beta Gamma Sigma Honor Society; Research Assistantship (Business); Teaching Assistantship (Civil/Ocean Engineering)*

Project: *The Liquidity of Companies Listed on Both NYSE and NASDAQ*

Project: *Why Accounting Firms Severed Relations / Employment with their Clients*

Project: *Field Study of Composite Piles in the Marine Environment*

Project: *Vibratory Pile Compaction*

Master of Science in Civil Engineering, Sept 2004

Northeastern University, Boston, Massachusetts

Specialization in Geotechnical Engineering

Bachelor of Science in Civil Engineering, May 1995

University of Rhode Island, Kingston, Rhode Island

Academic Awards: *Chi Epsilon National Honor Society; Phi Kappa Phi National Honor Society.*

President's Academic Excellence Award; Tau Beta Pi National Honor Society

Experience

Senior Consultant, RBM Consulting Group, Inc., San Antonio, TX (Oct 2019-)

RBM Consulting Group, Inc. provides expert consulting in geotechnical engineering as well as value engineering (VE) to aid domestic and international clients in solving their complex challenges. RBM leverages geotechnical engineering, construction expertise, and skilled management with high-level client support to present a safe, constructible, and efficient solution to geotechnical and foundation engineering challenges.

Managing Director, Advanced Foundation Solutions, LLC, New York, NY (Oct 2019-)

Advanced Foundation Solutions, LLC provides innovative products, such as the Expander Body and the Smart Cell, as well as progressive engineering and technical services to the deep foundations geo- construction industry.

Managing Director, V2C Strategists, LLC, New York, NY (Jan 2017 -)

Independent Consultant, Brooklyn, NY (May 2013 - Jan 2014; Sept 2015 - Jan 2017)

V2C Strategists LLC is a multifaceted consultancy that provides services and practical solutions to address engineering, business, risk, and technology concerns facing its clients in engineering and construction, transportation infrastructure, and capital development sectors. Dr. Marinucci specializes in geo-structural design and construction, management consulting, risk management, and contracting/project delivery.

Executive Editor, Deep Foundations Institute; Hawthorne, NJ (Nov 2016 – Dec 2019)

Dr. Marinucci's primary role is to direct the editorial content of the bi-monthly *DFI Magazine*, with the express goal of enhancing DFI's stature by providing pertinent, timely, and accurate information about the deep foundations industry.

Research / Adjunct Professor, Tandon School of Engineering at NYU; Brooklyn, NY (Jan 2016-) Specific focus areas of interest include ground modification/improvement technologies, deep foundation systems, contracting/project delivery, risk management, micropiles, ground anchors, and seismic response and mitigation. Dr. Marinucci developed and delivered graduate level civil engineering courses in ground modification methods and applications, and future efforts include developing new courses in project delivery methods, project-based risk management, and alternative deep foundation systems.

Director of Sales / Research, American Equip. & Fabricating, East Providence, RI (Jan 2014 - Aug 2015)

Dr. Marinucci analyzed market activities to develop corporate sales strategy, and developed the corporate sales and marketing plan to increase revenue, industry presence, and market share for the sale/rental of foundation equipment in the eastern U.S. Dr. Marinucci analyzed sales and rental activities from a costing perspective with respect to cash flow, risk exposure, trends, and local / regional differences. He also was the in-house technical resource and performed constructability and feasibility reviews.

Director of Operations, ADSC: The Int'l Assoc. of Found'n Drilling, Irving, TX (Dec 2009 - May 2013)

Dr. Marinucci was the in-house technical resource and was responsible for research & development, policy writing/adherence, personnel supervision, budget preparation, and development of education programs. He was technical director for and liaison to eleven regional / international chapters, FHWA, state DOTs, to ADSC and Industry technical committees, and to the academic community. ADSC is a not-for-profit, 501(c)(6) organization.

Doctoral Researcher, University of Texas at Austin (Aug 2005 - May 2010)

Mr. Marinucci conducted his Doctoral studies and research under the guidance and direction of Professor Ellen M. Rathje in the Department of Geotechnical Engineering. The research evaluated the effect of prefabricated vertical drains on pore water pressure generation and dissipation in liquefiable sand.

Construction Manager, Schnabel Foundation Co., King of Prussia, PA (Feb 2000 - July 2002)

Mr. Marinucci designed, estimated/bid, and managed the construction activities for various drilled and driven deep foundation, micropile, anchored/braced earth retention, and underpinning systems for public and private Design-Bid and Design-Bid-Build projects in DE, NJ, NY, and PA.

Staff Engineer, Commonwealth Engineers & Consultants, Providence, RI (Nov 1997 - Feb 2000)

Mr. Marinucci designed and prepared engineering reports and cost estimates for various structural systems and bridges, drilled and driven deep foundations, and anchored/braced earth retention systems for public and private projects in Connecticut, Massachusetts, and Rhode Island.

Staff Engineer, Modern Continental Construction, Boston, MA (Aug 1995 - Nov 1997)

Mr. Marinucci worked on the Central Artery/Tunnel (CA/T) Project (C17A2), where he was involved with various construction activities: multi-column viaduct underpinning, slurry/diaphragm wall construction, project submittals, materials procurement, and quality control (QC). He was also involved with bid estimating, scheduling, planning/sequencing, and contractor design concepts for construction activities on multiple other CA/T projects.

PROFESSIONAL QUALIFICATIONS & AWARDS

Licensed Professional Engineer - Commonwealth of Pennsylvania

National Highway Institute (NHI) Instructor – *Drilled Shafts Design & Construction; Drilled Shaft Inspector; Earth Retaining Structures; Geosynthetics; Ground Modification Methods; Micropiles; Soil Nail Walls*

Recipient of 2018 DFI President's Award

PROFESSIONAL SOCIETIES *(current)*

Member, ADSC: The International Assoc. of Foundation Drilling (ADSC)

Member, American Society of Civil Engineers, Geo-Institute (ASCE/GI)

Member, Deep Foundations Institute (DFI)

Member, Design-Build Institute of America (DBIA)

Member, Geotechnical Extreme Events Reconnaissance (GEER), sponsored by NSF

Member, International Society for Micropiles (ISM)

Member, International Society of Soil Mechanics & Geotechnical Engineering (ISSMGE)

Member, Project Management Institute (PMI)

Member, Transportation Research Board (TRB)

PROFESSIONAL COMMITTEES / TASK FORCES *(current)*

ASCE Geo-Institute Deep Foundations Committee (former Secretary)

ASCE Geo-Institute Soil Improvement Committee (former Secretary)

DFI/ADSC Micropile Committee

DFI Augered Cast-in-Place / Displacement Pile Committee

DFI Electric Power System Foundation Working Group

DFI-EFFC Working Group on Drilling Support Fluids for Bored Piles and Diaphragm Walls

DFI-EFFC Working Group on Tremie Placement of Concrete

DFI Ground Improvement Committee (former Secretary)

TRB AFS10: Earthworks Committee

TRB AFS30: Foundations of Bridges and Other Structures Committee

PROFESSIONAL AND TECHNICAL ACTIVITIES *(select)*

Co-Principal Investigator, Investigation of Development of Lateral Stresses during Installation of Drilled Displacement (DD) Piling project *(ongoing)*

Project Manager and Co-Principal Investigator, Phase I, FHWA *Evaluation and Guidance Development for Post-Grouted Drilled Shafts for Highways* project *(completed)*

Conference Chair and Proceedings co-editor, DFI 2016 Annual Conference, New York, NY

Chair, DFI-ADSC 2015 Micropile & Anchored Earth Retention Seminar, Saddle Brook, NJ

Tech. Program co-chair and Proceedings co-editor, DFI 2015 Annual Conference, Oakland, CA

Co-writer, ADSC-IAFD Specifications for the Construction of Secant and Tangent Pile Wall Systems using Drilled Shafts *(completed)*

Technical Program co-chair and Proceedings co-editor, DFI 2014 Annual Conference, Atlanta, GA

Editorial Board member, *Journal of the Deep Foundations Institute* *(current)*

Associate Editor and Technical Writer, ADSC *Foundation Drilling* magazine (2010-2013)

Technical Advisor, Static Capacity of Micropiles in R.I. Soils Project, Univ. of R.I. *(on hold)*

Peer Review Panel Member, Caltrans Deep Foundations Program (2012)

Co-Principal Investigator, Evaluation of Drilled Shafts utilizing High Strength Materials Project, Oregon State Univ. *(completed)*

Technical Advisor, TxDOT Axial Capacity of Drilled Shafts in Hard Clay and Limestone in Austin, Texas, Univ. of Texas at Austin *(completed)*

Technical Advisor, TxDOT Long-Term Performance of Secant Pile Drilled Shaft Retaining Walls, Univ. of Texas at Austin *(completed)*

Technical Advisor, TxDOT Drilled Shafts in MSE Walls, Univ. of Texas at Austin *(completed)*

PUBLICATIONS

Journal Publications (Peer-reviewed / refereed)

Li, Q., Stuedlein, A.W., and **Marinucci, A.** (2019). "Effect of Steel Casing and High-Strength Reinforcement on Lateral Load Transfer Characteristics of Drilled Shaft Foundations." *ASCE Journal of Geotechnical and Geoenvironmental Engineering*. v. 145, no. 9, September. doi.org/10.1061/(ASCE)GT.1943- 5606.0002116

Keykhosropour, L., Lemnitzer, A., Star, L., **Marinucci, A.**, and Keowen, S. (2019). "Closure to Discussion of 'Implementation of Soil Pressure Sensors in Large-Scale Soil-Structure Interaction Studies.'" *Geotechnical Testing Journal* 42 (in press). doi.org/10.1520/GTJ20190011.

Li, Q., Stuedlein, A.W., and **Marinucci, A.** (2017). "Full-scale Assessment of Axial Load Transfer of Drilled Shaft Foundations with and without Steel Casing." *DFI Journal*. November.

Keykhosropour, L., Lemnitzer, A., Star, L., **Marinucci, A.**, and Keowen, S. (2018). "Implementation of Soil Pressure Sensors in Large-Scale Soil-Structure Interaction Studies," *Geotechnical Testing Journal*, Vol. 41, No. 4, 2018, pp. 730–746, doi.org/10.1520/GTJ20170163. ISSN 0149-6115

Marinucci, A. and Jue, V. (2016). "Design and Construction of (Kelly) Bored Piles - A Comparison of Construction Practices in Europe and North America." *DFI Journal*. 20pp.

Bradshaw, A.S., Baxter, C.D.P., Tsiatas, G., **Marinucci, A.**, Ressler, J., and Morgan, R.J. (2006). "A Simple Dynamic Model for Fender Pile Analysis and Design." *Journal of Waterway, Port, Coastal and Ocean Engineering*. September/October. p. 419-422.

Journal Publications (In development or review)

Marinucci, A., Rathje, E.M., Stokoe, K., II, and Cox, B.R. (2020). "Evaluation of the Effectiveness of Prefabricated Vertical Drains for Liquefaction Remediation via Full-scale Field-testing." *to be submitted to ASCE Journal of Geotechnical and Geoenvironmental Engineering*.

Marinucci, A. and Lemnitzer, A. (2020). "Investigation of the Development of Lateral Stresses during Installation of Drilled Displacement Piling." *to be submitted to DFI Journal*.

Marinucci, A. and Reid, D. (2020). "Full-scale Bi-Directional Load Testing of Bored Piling using Super-Cells." *to be submitted to DFI Journal*.

Marinucci, A. and NeSmith, W.M. (2020). "Full-scale Load Testing and Extraction of ACIP Piles in Central Florida." *to be submitted to DFI Journal*.

Conference Proceedings (Peer-reviewed / refereed)

Marinucci, A., Mao, R., and Reid, D. (2019). "Bi-Directional Testing using Super Cells for the Jiaying- Shaoxing River Crossing Bridge." *Proceedings of the 44th Annual Conference on Deep Foundations*. Deep Foundations Institute. New York, N.Y.

Marinucci, A., Rathje, E.M., and Stokoe, K., II (2019). "Liquefaction Risk Mitigation by using Earthquake Drains." *7th International Conference on Earthquake Geotechnical Engineering*, Rome, Italy.

Marinucci, A., Carswell, W., Nichols, S., Ieronymaki, E., and Reid, D. (2019). "Design and Construction Considerations for Anchored Earth Retention Systems in Urban Environments." *4to Congreso Internacional de Fundaciones Profundas de Bolivia*, Santa Cruz, Bolivia.

Marinucci, A. and Mothersille, D. (2018). "Single Bore Multiple Anchor Systems (SBMAs) in Challenging and Variable Ground Conditions," *DFI-India 2018: 8th Conference on Deep Foundation Technologies for Infrastructure Development in India*, IIT Gandhinagar, Gujarat, India.

Marinucci, A., Nichols, S.C., and Large, M.E.B. (2018). "Ensuring Performance of Tip Post-grouted Drilled Shafts through a Comprehensive QA Program," *DFI 43rd Annual Conference*. Anaheim, CA.

Lemnitzer, A., Keykhosropour, L., Star, L., **Marinucci, A.**, and Keowen, S. (2018). "Large Diameter Soil Pressure Sensors Employed in Dynamic Shallow Foundation Testing," Geo-Shanghai Conference.

Marinucci, A. and Wilson, S.E. (2018). "Steel Drilled Displacement Piles (M-Piles) – Overview and Case History." Geo-Shanghai Conference.

Lemnitzer, A., Keykhosropour, L., **Marinucci, A.**, and Keowen, S. (2018). "Large Diameter Pressure Sensors: Design, Development and Sample Application." International Foundations Congress and Equipment Exposition (IFCEE). Geo-Institute (G-I), Reston, VA: ASCE.

Li, Q., **Marinucci, A.**, and Stuedlein, A.W. (2017). "Evaluation of Axial Load Transfer of Uncased and Permanently Cased Drilled Shaft Foundations." SMIG-DFI Conference. Mexico City, Mexico.

Stuedlein, A.W., Li, Q., Zammataro, J., Belardo, D., Hertlein, B.H., and **Marinucci, A.** (2016). "Comparison of Non-Destructive Integrity Tests on Experimental Drilled Shafts." *Proceedings of the 41st Annual Conference on Deep Foundations*. Deep Foundations Institute. New York, N.Y.

Marinucci, A. and Chiarabelli, M. (2015). "The Use of Displacement Piling Technology in Soft Soil Conditions." SMIG-DFI Conference. Mexico City, Mexico.

Burkett, T.B., Gilbert, R.B., Simpson, R.C., Wooley, J.A., **Marinucci, A.**, and Arrellaga, J.A. (2015). "Axial Load Tests on Drilled Shafts socketed in Hard Clays and Shales." *Proceedings of the 2015 International Foundations Congress and Equipment Exposition* (Geotechnical Special Publication No. 256). M. Iskander, M.T. Suleiman, J.B. Anderson, and D.F. Laefer (editors). Geo-Institute (G-I), Reston, VA: American Society of Civil Engineers, p. 899-907.

Nichols, S.C., **Marinucci, A.**, and Rivers, B. (2012). "Evaluating Post-Grouting to Improve Drilled Shaft Capacity." In *A Compendium of Research Reports and Invited Technical Papers*, Geo-Construction Conference Proceedings of the 2012 ADSC-IAFD Equipment Exposition and Technical Conference. A. Marinucci and W.T. Witherspoon, editors.

Marinucci, A., Rathje, E.M., Ellington, J.S., Cox, B.R., Menq, F-Y, and Stokoe, K.H. II. (2010). "Evaluation of the Effectiveness of Prefabricated Vertical Drains using Full-Scale In Situ Staged Dynamic Testing." In *The Art of Foundation Engineering Practice - honoring Clyde Baker*, ASCE Geotech. Special Pub. M. Hussein, J.B. Anderson, and W. Camp, (eds).

Howell, R., Rathje, E.M., **Marinucci, A.**, Kamai, R., Boulanger, R., Conlee, C., and Kano, S. (2009). "Centrifuge Modeling of Liquefaction Sites Treated with Prefabricated Drains," IS-Tokyo 2009 International Conference on Performance Based Design in Earthquake Geotechnical Engineering, Tsukuba, Japan.

Kamai, R., Boulanger, R., Kano, S., **Marinucci, A.**, Howell, R., Rathje, E.M., Conlee, C., and Gallagher, P. (2008). "Effects of Void Redistribution on Post-Earthquake Residual Strengths for Liquefiable Soils", Assoc. of State Dam Safety Officials. Indian Wells, CA.

Marinucci, A., Rathje, E.M., Kano, S., Kamai, R., Conlee, C., Howell, R., Boulanger, R., and Gallagher, P. (2008). "Centrifuge Testing of Prefabricated Vertical Drains for Liquefaction Remediation," in *Geotechnical Earthquake Engineering and Soil Dynamics IV*, ASCE Geotech. Special Publication No. 181, D. Zeng, M.T. Manzari, and D.R. Hiltunen (eds.).

Rix, G.J., Boulanger, R.W., Conlee, C., Gallagher, P.M., Kamai, R., Kano, S., **Marinucci, A.**, and Rathje, E.M. (2007). "Large-scale Geotechnical Simulations to Advance Seismic Risk Management for Ports." *4th International Conf. on Earthquake Geotechnical Engineering*. Thessaloniki, Greece.

Marinucci, A. (2005). "A Geotechnical Specialty Contractor's Recovery thru Differing Site Conditions." Proceedings of the ASCE Geo-Frontiers 2005 Congress, Austin, Texas. DOI: [http://dx.doi.org/10.1061/40784\(163\)3](http://dx.doi.org/10.1061/40784(163)3)

Technical Manuals/Reports, Editorial Work, etc. (Peer-reviewed / refereed)

RBM Consulting Group, Inc.

9014 Converse, TX 78109

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Marinucci, A. and NeSmith, W.M. (2017). "ACIP Pile Installation, Installation Monitoring, Full-scale Load Testing, and Extraction Program." Report prepared for Deep Foundations Institute. 128pp.

Loehr, J.E., **Marinucci, A.**, Hagerty Duffy, P., Gómez, J., Robinson, H., Day, T.J., Boeckmann, A.Z., and Cadden, A.W. (2017). *Evaluation and Guidance Development for Post-Grouted Drilled Shafts for Highways*, Report No. FHWA-HIF-17-024, Federal Highway Administration. March. 158 pp.

Cortnik, B., **Marinucci, A.**, and Prashar, Y., editors. (2015). *Proceedings of the 40th Annual Conference on Deep Foundations*. Deep Foundations Institute. Oakland, CA.

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