

Khaled Sobhan. Ph.D., E.I.
Professor of Civil, Environmental and Geomatics Engineering
Florida Atlantic University, Boca Raton, FL 33431
Phone: 561-306-5086; Email: ksobhan@fau.edu

EDUCATION AND TRAINING

- **Northwestern University, Evanston, Illinois: Ph.D. in Civil Engineering**
Area: Geotechnical Engineering, Sustainable Infrastructure Materials
 - **The Johns Hopkins University, Baltimore, Maryland: M.S. in Civil Engineering**
Area: Soil Mechanics, Constitutive Behavior, Geotechnical Engineering
 - **Bangladesh University of Engineering & Technology: B.S. in Civil Engineering**
Concentration: Structural Engineering
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UNIVERSITY APPOINTMENTS

- Interim Dean of Graduate College, Florida Atlantic University (2018 – 2019)
 - Professor (2013 – present); Department of Civil, Environmental and Geomatics Engineering, Florida Atlantic University.
 - Associate Professor (tenured; 2007 – 2013); Department of Civil, Environmental and Geomatics Engineering, Florida Atlantic University.
 - Assistant Professor (tenure-track; 2003 – 2007); Department of Civil Engineering, Florida Atlantic University.
 - Assistant Professor (tenure-track; 1999 – 2002); Civil and Geological Engineering, New Mexico State University.
 - Visiting Assistant Professor (full-time; 1995 – 1999); Department of Civil Engineering; Bucknell University, Lewisburg, Pennsylvania.
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LEADERSHIP AND ADMINISTRATIVE EXPERIENCE

University Level

- Provost/Faculty Senate Joint *ad hoc* Committee on Diversity, Equity and Inclusion (2020)
- Interim Dean of Graduate College, Florida Atlantic University (2018 – 2019)
- Member of the Council of Deans, Florida Atlantic University (2018 – 2019)
- Member of Internal Program Review Committee: Arts and Letters, Honors College, College of Nursing (2019)
- Sustained Performance Evaluation (SPE) Committee, Provost's office (2013-2016)
- Provost Task Force for Celebrating Faculty Success (2011-2012)
- Member, University Tenure/Promotion Committee (2016-2018)
- Programs Review Committee, Office of the Vice President for Strategic Planning (2012): College of Arts and Letters, FAU; Programs reviewed: English, Philosophy, Jewish Studies, History, Language, Linguistics, and Comparative Literature, Communication/Multimedia, and Interdisciplinary Studies
- University (Boca) Faculty Senate (2009-2012)
- University Graduate Council (2005-2010). Development of the *Graduate Governance Document*.

College Level

- Member, College Graduate Studies Committee (2020 – present)
- Member, College Personnel (Tenure/Promotion) Committee (2019-2020)
- Chair, College Personnel Committee (tenure/promotion), Engr. & Comp. Sci. (2016-2018)
- Faculty President, College of Engineering & Computer Science (2010-2013)
- Member, Dean's Executive Committee (2010-2013)
- Chair, College Graduate Studies Committee, Engr. & Comp. Sci. (2005-2010)
- Member, College Personnel Committee (tenure/promotion), Engr. & Comp. Sci. (2013-2016)
- Member, College Policy and Development Committee, Engr. & Comp. Sci. (2010-2013)
- Member, Eminent Scholar Search Committee, Engr. & Comp. Sci. (2013)
- Member, Interim Dean Search Committee, Engr. & Comp. Sci. (2011)

Department Level

- Chair, Department Tenure/Promotion (Personnel) Committee (2019 – present)
- Graduate Director and Coordinator, Civil Engineering, (2009-2018). Responsible for graduate admissions, graduate recruitment grants, advising, Plan of Study, graduate course registration, degree application, degree certification.
- Coordinator of the *Sustainable Infrastructure Engineering* Ph.D. track for Civil engineering
- Chair, Search Committee, Civil Engineering Strategic Cluster Hire (2013-2014)
- ABET: ABET Self-Study with Appendices, mapping of course objectives/learning outcomes, assessment techniques, Continuous Improvement Process (CIP) and relevant documentations; 2003, 2008 and 2014

National Level

- Past Chair, 25-member TRB National technical committee AFS90: *Chemical and Mechanical Stabilization, Transportation Research Board*, National Research Council, National Academies, Washington, D.C., (2005-2011).
- Member, TRB Executive Committee, AFS00 Section, *Transportation Research Board*, National Research Council, Washington, D.C., (2005-2011)
- Member, TRB technical committee AFS70: *Geosynthetics, Transportation Research Board*, National Research Council, Washington, D.C., (2012-present).
- Member, TRB technical committee AFS90: *Chemical and Mechanical Stabilization, Transportation Research Board*, National Research Council, Washington, D.C., (2003-2013).
- Journal Editorship: Associate Editor / EBM for the following three Journals: (1) *Geotechnical Testing Journal* (ASTM International); (2) *Geotechnical and Geological Engineering* (Springer, The Netherlands); (3) *International Journal of Geotechnical Engineering* (Taylor and Francis, UK)

INTERNATIONAL APPOINTMENT/ CONSULTANT- THE WORLD BANK

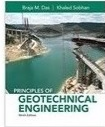
Consultant for **The World Bank** project titled “Benchmarking of the Central Soils and Materials Research Station (CSMRS),” New Delhi, India; Agricultural and Rural Development Division, **The World Bank**, International Bank for Reconstruction/Development, Washington, D.C.; (2012 – 2013).

TEACHING AWARDS AND DISTINCTIONS

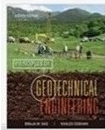
- **2016/2017 Award for Excellence and Innovation in Undergraduate Teaching**, Florida Atlantic University, April, 2016.
- **2009 Excellence in Graduate Mentoring Award**, April, 2009, Florida Atlantic University.
- **2006/2007 Award for Excellence and Innovation in Undergraduate Teaching**, Florida Atlantic University, April, 2007.

- Nominated by the College for the **Researcher of the Year** award at the Associate Professor level, Florida Atlantic University, 2008.
- *Civil Engineering Professor of the Year Award*, New Mexico State University (2001)

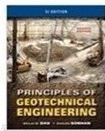
NATIONALLY ACCLAIMED TEXTBOOK



Principles of Geotechnical Engineering, 9th Edition
Braja M. Das and Khaled Sobhan
Cengage Learning, 2018; ISBN-13: 978-1305970939



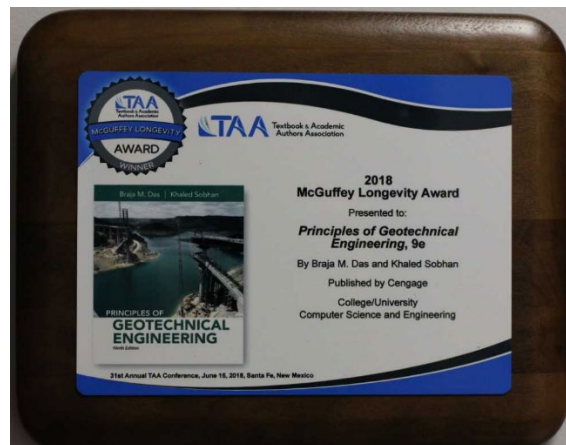
Principles of Geotechnical Engineering, 8th Edition
Braja M. Das and Khaled Sobhan
Cengage Learning, 2014; ISBN-13: 978-1133108665



Principles of Geotechnical Engineering, SI Version, 8th Edition
Braja M. Das and Khaled Sobhan
Cengage Learning, 2014; ISBN-13: 978-1133108672

TEXTBOOK AWARD

Recipient of 2018 McGuffey Longevity Award, Textbook & Academic Authors Association (TAA), during the 31st Annual TAA Conference, June 15, 2018, Santa Fe, New Mexico.



COMMITMENT TO STEM EDUCATION AND LEARNING

Principal Investigator, National Science Foundation RIGEE Project: “*Exploring the Disconnect between Self-Determination Theory and the Engineering Classroom Environment.*” (NSF Award ID: 1340304) (2013-2016); \$150,000; completed. Research focus: Interrelationships among STEM Learning, STEM Learning Environment, Student Motivation and Student Success; broadening participation in STEM; socio-cultural factors.

NSF Collaborative Proposals (in review):

1. Innovation in Graduate Education (IGE): *Integrating Data Analytics with the Vulnerability, Integrity and Resiliency Assessment (VIRA) Skill Set: A Graduate Education Workforce Readiness Model for Engineers* (PI: K. Sobhan; revision submitted 11/4/2020)
2. EHR Core Research (ECR): *Modeling “in-the-moment” fluctuations in student learning experiences throughout the semester and their impact on course outcomes in Statics* (PI: K. Sobhan; submitted to NSF 09/30/2020)

JOURNAL EDITORSHIP

- Editorial Board Member, *ASTM Geotechnical Testing Journal*, ASTM International, West Conshohocken, PA, 19428 (2010 – present)
- Associate Editor, *ASCE Journal of Materials in Civil Engineering*, American Society of Civil Engineers (2009 – 2015)
- Associate Editor, *Geotechnical and Geological Engineering*, An International Journal, Springer Publications, The Netherlands, ISSN: 0960-3182; (2016 – present)
- Editorial Board Member, *Geotechnical and Geological Engineering*, An International Journal, Springer Publications, The Netherlands, ISSN: 0960-3182; (2003 – 2016)
- Editorial Board Member, *International Journal of Geotechnical Engineering*, Taylor and Francis, (2007 – present)
- Guest Editor: *International Journal of Computational Methods: Special Issue on Computational Geomechanics*, ISSN: 0219-8762; World Scientific Publishing, 2014.

RESEARCH CITATIONS

Total number of citations: 3,149

***h*-index** = 16 (largest number *h* such that *h* publications have at least *h* number of citations)

***i10*-index** = 25 (25 publications each has at least 25 citations)



Khaled Sobhan

Professor, Florida Atlantic University
Verified email at fau.edu

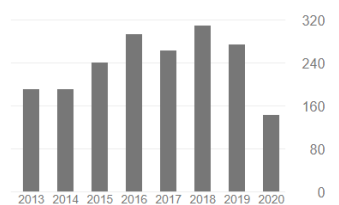
Geotechnical Engineering Infrastructure Materials

FOLLOWING

Cited by

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| Citations | 3149 | 1524 |
| <i>h</i> -index | 16 | 12 |
| <i>i10</i> -index | 25 | 15 |



Co-authors

EDIT

| TITLE | CITED BY | YEAR |
|--|----------|------|
| <input type="checkbox"/> Principles of geotechnical engineering BM Das, K Sobhan Cengage learning | 2356 | 2013 |
| <input type="checkbox"/> Tensile strength and toughness of soil–cement–fly-ash composite reinforced with recycled high-density polyethylene strips K Sobhan, M Mashnad Journal of Materials in Civil Engineering 14 (2), 177-184 | 94 | 2002 |
| <input type="checkbox"/> Durability of fly ash–based geopolymer structural concrete in the marine environment DV Reddy, JB Edouard, K Sobhan Journal of materials in civil engineering 25 (6), 781-787 | 62 | 2013 |

LIST OF PUBLICATIONS

Books / Chapters

1. **Principles of Geotechnical Engineering – 9th Edition**, by Braja M. Das and Khaled Sobhan, Cengage Learning, ISBN-13: 9781305970939, 784 pages; 2018.

2. **Principles of Geotechnical Engineering – SI Version, 9th Edition**, by Braja M. Das and Khaled Sobhan, Cengage Learning, ISBN-13: 9781305970953, 784 pages; 2018.
3. **Principles of Geotechnical Engineering – 8th Edition**, by Braja M. Das and Khaled Sobhan, Cengage Learning, ISBN-13: 978-1-133-108665; 726 Pages, 2014.
4. **Principles of Geotechnical Engineering – SI Version, 8th Edition**, by Braja M. Das and Khaled Sobhan, Cengage Learning, ISBN-13: 978-1-133-108667; 2014.
5. **Slope Stability**, Book Chapter in *Geotechnical Engineering Handbook*, Braja M. Das, Editor in Chief, ISBN: 978-1-932159-83-7, J. Ross Publishing, August 2010, 75 p.
6. **TRB Circular (standard setting)**: Petry, T. M. and Sobhan, K. (2005). “Evaluation of Chemical Stabilizers: State-of-the-Practice Report,” *Transportation Research Circular E-C086*, ISSN 0097-8515, *Transportation Research Board (TRB), National Research Council, The National Academies*, Washington, D. C., pp. 1-16.
7. **Soil Mechanics Laboratory Manual – 10th Edition** (forthcoming), by Braja M. Das and Khaled Sobhan, Oxford University Press, 2021.

- **Papers Receiving Awards and Distinctions**

1. **TRB Practice-Ready Paper Catalog**: Ali, H., and Sobhan, K. (2012). “On the Road to Sustainability: Properties of Recycled Superpave Mixes,” *Transportation Research Record: Journal of the Transportation Research Board, The National Academies*, Volume 2292, pp. 88-93.
2. **TRB Practice-Ready Paper Catalog**: Sobhan, K., George, K. P., Pohly, D. and Ali, H. (2010). “Stiffness Characterization of Reinforced Asphalt Pavement Structures Built Over Soft Organic Soils,” *Transportation Research Record: Journal of the Transportation Research Board, The National Academies*, Volume 2186, pp. 67-77. Also nominated for the TRB Soil Mechanics Section (AFS00) Best Paper Award 2010.
3. **International Paper Award**: Reddy, D. V., Gonzalez-Mier, C. S., and Sobhan, K. (2012). “Response of a Freshly Placed Full Scale Concrete Drilled Shaft to Vibrations Induced by Adjacent Shaft Installation,” *37th Conference on Our World in Concrete and Structures*, Singapore, August 29-31, 2012. Received the American Concrete Institute Singapore Chapter Award for an Outstanding and Original Paper.
4. **International Paper Award**: Liu, L., Reddy, D. V., and Sobhan, K. (2009). “A Simplified Method for Estimating Load Capacity of Three-side Fired Damaged Columns/Beams,” *34th Conference on Our World in Concrete and Structures*, Singapore, September 16-18, 2009. Received the American Concrete Institute Singapore Chapter Award for an Outstanding and Original Paper.
5. **International Paper Award**: Reddy, D. V., Sobhan, K., and Young, J. (2006). “Effect of Elevated Temperature and Fire on Structural Elements Retrofitted by Carbon Fiber Reinforced Polymer Composites,” *31st Conference on Our World in Concrete and Structures*, 16-17 August, 2006, Singapore, pp. 325-335. Received the STUP Consultants Ltd. Award for an Outstanding and Original paper.

- **Invited Honors Lecture**

Sobhan, K. (2017). “Challenges due to Problematic Soils: A Case Study at the Crossroads of Geotechnology and Sustainable Pavement Solutions.” First **Braja Das Lecture** given at the GeoMEast 2017 International Congress and Exhibition, *Sustainable Civil Infrastructures: Innovative Infrastructure Geotechnology*, Sharm El-Sheikh, Egypt, July 15-19, 2017.

- **Journals/Special publications**

1. Sobhan, K., Reddy, D. V. and Martinez, F. (2020). “Fire Resistance of Corroded High-Strength Structural Concrete,” *Journal of Structural Fire Engineering*, DOI: <https://doi.org/10.1108/JSFE-10-2019-0033>, ISSN: 2014-2317

2. Sobhan, K., Martinez, F. J., and Reddy, D. V. (2020). "Corrosion Resistance of Fly-ash based Fiber-reinforced Geopolymer Structural Concrete in a Simulated Marine Environment," *Canadian Journal of Civil Engineering* (accepted).
3. Sobhan, K., Sarsour, A., and Ramirez, J. (2020). "Controlling secondary compression settlement in Florida organic soils: a criterion for cementitious stabilization," *Journal of the Florida Engineering Society*, pp. 14-17. March 2020.
4. Sethy, B. P., Patra, C. R., Das, B. M. and Sobhan, K. (2020). "Behavior of Circular Foundation on Sand Layer of Limited Thickness Subjected to Eccentrically Inclined Load (numerical study)," *Soils and Foundations Journal*, Japanese Geotechnical Society, Volume 60, Issue 1, pp. 13-27.
5. Sethy, B. P., Patra, C. R., Das, B. M., and Sobhan, K. (2020). "Bearing Capacity of Circular Foundation on a Sand Layer of Limited Thickness under Eccentrically Inclined Loading (experimental study)," *Soil Mechanics and Foundation Engineering*, Springer, ISSN: 0038-0741 (in press; to appear in Vol. 57, Issue 6, 2020)
6. Sobhan, K., Patra, C., Sethy, B., and Das, B. M. (2020). "Bearing Capacity of Circular Foundation on Sand of Limited Thickness under Inclined Loading," *Geotechnical Special Publication (GSP)* 315, pp. 305-312, Geo-Congress 2020, Foundations, Soil Improvement, and Erosion, American Society of Civil Engineers.
7. Sethy, B. P., Patra, C. R., Das, B. M., and Sobhan, K. (2019). "Prediction of Ultimate Bearing Capacity of Circular Foundation on Sand Layer of Limited Thickness Using Artificial Neural Network," *International Journal of Geotechnical Engineering*, DOI:10.1080/19386362.219.1645437
8. Sethy, B. P., Patra, C. R., Das, B. M., and Sobhan, K. (2019). "Bearing Capacity of Circular Foundation on Sand Layer of Limited Thickness Underlain by Rigid Rough Base Subjected to Eccentrically Inclined Load," *ASTM Geotechnical Testing Journal*, Vol. 42, No. 3, pp. 597-609.
9. Ahmad, I., Suksawang, N., Sobhan, K., Corven, J., Vallier, R., Sayyafi, E. A. and Pant, S. (2018). "Developing Guidelines for Epoxy Grout Pourback Systems for Controlling Thermal/Shrinkage Cracking at Post-Tensioning Anchorages: Full-scale Testing and Numerical Analysis," *Transportation Research Record, Journal of the Transportation Research Board*, May, 2018, <https://doi.org/10.1177/0361198118755725>
10. Sobhan, K. (2017). "Challenges due to Problematic Soils: A Case Study at the Crossroads of Geotechnology and Sustainable Pavement Solutions." *Innovative Infrastructure Solutions*, 2:40, December 2017, Springer International Publishing, DOI 10.1007/s41062-017-0070-y.
11. Sobhan, K., Gonzalez, L., and Reddy, D. V. (2016). "Durability of a Pavement Foundation made from Recycled Aggregate Concrete Subjected to Cyclic Wet-dry Exposure and Fatigue Loading," *Materials and Structures*, RILEM, Volume 49, Issue 6, pp. 2271-2284, June 2016.
12. Reddy, D. V., Sobhan, K., Liu, L., and Young, J. D. (2015). "Size Effect on Fire Resistance of Structural Concrete," *Engineering Structures*, Volume 99, pp. 468-478.
13. Reddy, D. V., Sobhan, K., and Young, J. D. (2015). "Fire Resistance of Structural Concrete Retrofitted with Carbon Fiber Reinforced Polymer Composite," *Transportation Research Record, Journal of the Transportation Research Board*, Washington, D.C., Volume 2522, pp. 151-160.

14. Reddy, D. V., Edouard, J-B., and Sobhan, K. (2013). "Durability of Fly-ash-based Geopolymer Structural Concrete in the Marine Environment," *ASCE Journal of Materials in Civil Engineering*, Volume 25, Issue 6, pp. 781–787.
15. Reddy, D. V., Bolivar, J. C., and Sobhan, K. (2013). "Durability-based Ranking of Typical Structural Repairs for Corrosion-Damaged Marine Piles," *ASCE Practice Periodical on Structural Design and Construction*, 18(4), pp. 225–237.
16. Sobhan, K., Ramirez, J. C., and Reddy, D. V. (2012). "Cement Stabilization of Highly Organic Subgrade Soils for Controlling Secondary Compression Settlement," *Transportation Research Record, Journal of the Transportation Research Board*, Volume 2310, pp. 103-112.
17. Ali, H., and Sobhan, K. (2012). "On the Road to Sustainability: Properties of Hot in-place Superpave Mix," *Transportation Research Record, Journal of the Transportation Research Board*, Volume 2292, pp. 88-93.
18. Sobhan, K., George, K. P., Pohly, D. and Ali, H. (2010). "Stiffness Characterization of Reinforced Asphalt Pavement Structures Built Over Soft Organic Soils," *Transportation Research Record: Journal of the Transportation Research Board*, Volume 2186, pp. 67-77.
19. Sobhan, K., George, K. P., Pohly, D, and Ali, H. (2010). "Use of Falling Weight Deflectometer Tests for the Characterization of Reinforced Asphalt Pavement Structures built over Organic Soils," *Geotechnical Special Publication (GSP)*, No. 199, *American Society of Civil Engineers*.
20. Sobhan, K. and Tandon, V. (2008). "Mitigating Reflection Cracking in Asphalt Overlays using Geosynthetic Reinforcements," *Road Materials and Pavement Design: An International Journal*, Volume 9, Issue 3; pp. 367-387.
21. Sobhan, K., Reddy, D. V., and Genduso, M. J. (2008). "Permanent Strain Characterization in Granular Materials using Repeated Load Triaxial Tests and Digital Image Correlation (DIC) Technique," *Geotechnical Special Publication (GSP) 179*, ASCE, pp. 181-188.
22. Sobhan, K. (2008). "Improving the Tensile Strength and Toughness of a Soil-Cement-Fly Ash Pavement Subgrade with Recycled HDPE Strips," *Geotechnical Special Publication (GSP) 178*, ASCE, pp. 1065 – 1072.
23. Sobhan, K., Ali, H., Riedy, K. and Huynh, H. (2007). "Evaluating the Compressibility Behavior of Organic Soils using Laboratory Characterization and Rapid On-Site Piezocone Penetration Testing," *International Journal of Geotechnical Engineering*, Volume 1, Issue 1, pp. 9-18.
24. Sobhan, K. (2007). "Innovative Fracture-Resistant Construction Material from C&D Waste Aggregate, Fly Ash and Recycled Plastics," *International Journal of Environment and Pollution*, ISSN 0957-4352, Inderscience Publishers, UK., Vol. 31, Issue 3/4, pp. 304-315.
25. Sobhan, K. and Das, B. M. (2007). "Durability of Soil-cements Against Fatigue Fracture," *ASCE Journal of Materials in Civil Engineering*, American Society of Civil Engineers, Volume 19, Issue 1, pp. 26-32.

26. Sobhan, K., Ali, H., Riedy, K. and Huynh, H. (2007). "Field and Laboratory Compressibility Characteristics of Soft Organic Soils in Florida," *ASCE Geotechnical Special Publication (GSP) No. 173: Advances in Measurement and Modeling of Soil Behavior*, American Society of Civil Engineers, pp. 1-10.
27. Sobhan, K. and Mashnad, M. (2005). "Fatigue Behavior of a Pavement Foundation with Recycled Aggregate and Waste HDPE Strips," *Refereed Discussion and Closure, ASCE Journal of Geotechnical and Geo-environmental Engineering*, Vol. 131, Number 1, p.137.
28. Petry, T. M. and Sobhan, K. (2005). "Evaluation of Chemical Stabilizers: State-of-the-Practice Report," *Transportation Research Circular E-C086*, ISSN 0097-8515, *Transportation Research Board (TRB), National Research Council, The National Academies*, Washington, D. C., pp. 1-16.
29. Sobhan, K., Ahmad, T. and Mashnad, M. (2003). "Use of Discrete Fibers for Tensile Reinforcement of an Alternative Pavement Foundation with Recycled Aggregate," *ASTM Cement, Concrete and Aggregate Journal*, American Society for Testing and Materials, Vol. 25 No. 1, pp.7-15.
30. Sobhan, K. and Mashnad, M. (2003). "Fatigue Behavior of a Pavement Foundation with Recycled Aggregate and Waste HDPE Strips," *ASCE Journal of Geotechnical and Geo-environmental Engineering*, American Society of Civil Engineers, Vol. 129, No. 7, pp. 630-638.
31. Sobhan, K. and Mashnad, M. (2003). "Mechanical Stabilization of Cemented Soil-Fly Ash Mixtures with Recycled Plastic Strips," *ASCE Journal of Environmental Engineering*, American Society of Civil Engineers, Vol. 129, No. 10, pp. 943-947.
32. Sobhan, K. and Mashnad, M. (2002). "Tensile Strength and Toughness of Soil-Cement-Fly Ash Composite Reinforced with Recycled HDPE Strips," *Journal of Materials in Civil Engineering, ASCE*, Volume 14, No. 2, pp. 177-184.
33. Sobhan, K. (2002). "Engineering Properties of Sand-Fiber Mixtures for Road Construction," *Refereed Discussion, Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, Volume 128, Number 6, pp. 537.
34. Sobhan, K. and Mashnad, M. (2002). "Fatigue Damage in a Roller Compacted Pavement Foundation with Recycled Aggregate and Waste HDPE Strips," *Transportation Research Record 1798, Journal of the Transportation Research Board*, pp. 8-16.
35. Sobhan, K. and Mashnad, M. (2001). "A Roller Compacted Fiber-Concrete Pavement Foundation with Recycled Aggregate and Waste Plastics," *Transportation Research Record 1775, Journal of the Transportation Research Board*, pp. 53-63.
36. Sobhan, K. and Krizek, R. J. (1999) "Fatigue Behavior of a Fiber-Reinforced Recycled Aggregate Base Course," *ASCE Journal of Materials in Civil Engineering*, Vol. II, May 1999, pp. 124-130.
37. Sobhan, K., and Krizek, R. J. (1998). "Resilient Properties and Fatigue Damage in a Stabilized Recycled Aggregate Base Course Material," *Transportation Research Record, Journal of the Transportation Research Board, No. 1611*, Transportation Research Board, Washington D.C., pp. 28-37.

38. Sobhan, K., and Krizek R. J. (1998). "Repeated Loading of Stabilized Recycled Aggregate Base Course," *ASCE Geotechnical Special Publication No. 79, Recycled Materials in Geotechnical Applications*, Geo-Institute of the ASCE, pp. 180-194.
39. Cavey, J. K., Krizek, R. J., Sobhan, K., and Baker, W. H. (1995). "Waste Fibers in Cement-Stabilized Recycled Aggregate Base Course Material," *Transportation Research Record, Journal of the Transportation Research Board No. 1486*, Transportation Research Board, Washington D.C., pp. 57-68.
40. Anandarajah, A., Sobhan, K., and Kuganenthira, N. (1995). "Incremental Stress-Strain Behavior of Granular Soil," *ASCE Journal of Geotechnical Engineering*, American Society of Civil Engineering, Vol. 121, No. 1, pp. 57-68.

● **Peer-Reviewed Conferences**

41. Sobhan, K., Patra, C., Sethy, B., and Das, B. M. (2020). "Bearing capacity of circular foundation on sand of limited thickness under inclined loading," *Geo-Congress 2020*, ASCE Geo Institute, Minneapolis, MN, February 25 – 28, 2020.
42. Sobhan, K., Patra, C., Sethy, B., and Das, B. M. (2019). "Bearing capacity of eccentrically loaded surface circular foundation on sand of limited thickness," *Geotechnical Engineering in the XXI Century: Lessons learned and future challenges*, N.P. López-Acosta et al. (Eds.), *XVI Panamerican Conference in Soil Mechanics and Foundation Engineering*, Cancun, Mexico, November, 18-22, 2019. doi:10.3233/STAL190163
43. Polidora, J. B., Sobhan, K., and Reddy, D. V. (2019). "Effects of Geosynthetic Inclusions on the Fatigue and Fracture Properties of Asphalt Overlays," *Proceedings of the XVII European Conference on Soil Mechanics and Geotechnical Engineering, Geotechnical Engineering foundation of the future*, ISBN 978-9935-9436-1-3, 1 - 6 September, Reykjavik, Iceland. doi: 10.32075/17ECSTMGE-2019-0516
44. Sahu, R., Patra, C. R., Sobhan, K., and Das, B. M. (2019). "Ultimate bearing capacity prediction of eccentrically loaded rectangular footing on Reinforced sand by ANN," **Advances in Geosynthetics Engineering**, M. Meguid, E. Guler and J. P. Giroud (Eds.), Springer Nature Switzerland AG 2019, pp. 45-58, ISBN 978-3-030-01944-0 (eBook); *Proceedings of the 2nd GeoMeast International Congress and Exposition, Sustainable Civil Infrastructures*, Egypt, November 24-28, 2018. <https://doi.org/10.1007/978-3-030-01944-0>
45. Sethy, B. P., Patra, C. R., Sobhan, K., Das, B. M. (2019). "Ultimate bearing capacity of eccentrically inclined loaded circular foundation on sand layer of limited thickness using ANN," **Advanced Research on Shallow Foundations**, H. Shehata and B. Das (Eds.), Springer Nature Switzerland AG 2019, pp. 40-53; ISBN 978-3-030-01923-5 (eBook); *Proceedings of the 2nd GeoMeast International Congress and Exposition, Sustainable Civil Infrastructures*, Egypt, November 24-28, 2018. <https://doi.org/10.1007/978-3-030-01923-5>
46. Sarsour, A., Sobhan, K., Das, B. M., and Shukla, S. K. (2019). "Use of Ca / Cc Ratio as a Criterion for Cementitious Stabilization of Highly Organic Subgrade Soils," *13th Australia New Zealand Conference on Geomechanics*, Acosta-Martinez & Lehane (Eds.), Perth, Australia, 1-3 April, 2019, pp. 997-1002, ISBN 978-0-9946261-0-3

47. Ahmad, I., Suksawang, N., Sobhan, K., Corven, J., Vallier, R., Sayyafi, E. A. and Pant, S. (2018). "Developing Guidelines for Epoxy Grout Pourback Systems for Controlling Thermal/Shrinkage Cracking at Post-Tensioning Anchorages: Full-scale Testing and Numerical Analysis," 97th Annual Meeting of the *Transportation Research Board*, January 7-11, 2018.
48. Sobhan, K., Patra, C., Sivakugan, N., and Das, B. M. (2017). "Bearing Capacity of Eccentrically Loaded Rectangular Foundation on Sand," *Proceedings of the 19th International Conference on Soil Mechanics and Geotechnical Engineering (ICSMGE)*, September 17-22, 2017, Seoul, Korea.
49. Reddy, D. V., Merantus, S. W., and Sobhan, K. (2017). "Correlation of Chloride Diffusivity with Electrical Resistivity for Sound and Cracked Concrete," 42nd Conference on *Our World in Concrete & Structures*, 23-25 August 2017, Singapore.
50. Sobhan, K., Gonzalez, L., and Reddy, D. V. (2015). "Cement Stabilized Recycled Aggregate Base Course under Coupled Wet-Dry Cycles and Repeated Loading," *XVI European Conference on Soil Mechanics and Geotechnical Engineering*, DOI: 10.1680/ecsmge.60678.vol6.526, Edinburgh, 13-17 September, 2015.
51. Reddy, D. V., Sobhan, K., and Bolivar, J.C. (2015). "A Comparative Evaluation of Structural Repair Techniques for Corrosion Damaged Marine Piles," *XVI European Conference on Soil Mechanics and Geotechnical Engineering*, DOI: 10.1680/ecsmge.60678.vol3.188, Edinburgh, 13-17 September, 2015.
52. Brown, N., Sobhan, K., An, P-C., Sherman, R., and Romance, N. (2015). "Investigating the Relationship between Faculty Knowledge of Self-Determination Theory and the Learning Environment on Student Outcomes," 122nd ASEE Conference and Exposition, *American Society of Engineering Education*, Seattle, WA, June 14-17.
53. Reddy, D. V., Martinez, F., and Sobhan, K. (2014). "Fire Resistance of Corroded Reinforced Concrete," 39th Conference on *Our World in Concrete & Structures*, 22-23 August 2014, Singapore.
54. Sobhan, K., An, P-C., Sherman, R., Romance, N. and Brown, N. (2014). "Exploring the Disconnect between Self Determination Theory and the Engineering Classroom Environment," 121st ASEE Conference and Exposition, *American Society of Engineering Education*, Indianapolis, June 15-18, 2014.
55. Reddy, D. V., Martinez, F. J., and Sobhan, K. (2013). "Strength and Durability of Fly Ash Based Fiber Reinforced Geopolymer Concrete in a Simulated Marine Environment," International Conference on Trends and Challenges in Concrete Structures, New Delhi, India, December 19-21, 2013.
56. Reddy, D. V., Gonzalez-Mier, C. S., and Sobhan, K. (2013). "Dynamic Response of a Freshly Placed Full-scale Concrete Drilled Shaft Due to Vibration from Adjacent Shaft Installation," 92nd Annual Meeting of the *Transportation Research Board*, The National Academies, January 13-17, 2013, Washington, D.C.
57. Reddy, D. V., Edouard, J-B., and Sobhan, K. (2012). "Durability of Fly-ash-based Geopolymer Structural Concrete in the Marine Environment," 91st Annual Meeting of the *Transportation Research Board*, The National Academies, January 22-26, 2012, Washington, D.C.

58. Reddy, D. V., Gonzalez-Mier, C. S., and Sobhan, K. (2012). "Response of a Freshly Placed Full Scale Concrete Drilled Shaft to Vibrations Induced by Adjacent Shaft Installation," 37th Conference on *Our World in Concrete and Structures*, Singapore, August 29-31, 2012.
59. Reddy, D. V., Edouard, J-B., Sobhan, K., and Rajpathak, S. S. (2011). "Durability of Reinforced Fly-ash-based Geopolymer Concrete in the Marine Environment," 36th Conference on *Our World in Concrete & Structure*, Singapore, August 14-16, 2011.
60. Reddy, D. V., Arboleda, D., and Sobhan, K. (2010). "Use of Hybrid Rice Husk Ash/Fly Ash as sustainable and Green Supplementary Materials for Concrete in the Marine Environment," *Second International Conference on Sustainable Construction Materials and Technologies*, June 28 - June 30, 2010, Università Politecnica delle Marche, Ancona, Italy.
61. Liu, L., Reddy, D. V., and Sobhan, K. (2009). "A Simplified Method for Estimating Load Capacity of Three-side Fired Damaged Columns/Beams," 34th Conference on *Our World in Concrete and Structures*, Singapore, September 16-18, 2009.
62. Bolivar, J. C., Reddy, D. V., and Sobhan, K. (2009). "Experimental Evaluation, Scoring, and Rating of Durable Structural Repairs for Marine Pile Corrosion Damage," 34th Conference on *Our World in Concrete and Structures*, Singapore, September 16-18, 2009.
63. Sobhan, K. and Ali, H. (2008). "Field and Laboratory Characterization of Problematic Organic Subgrade Soils in Florida," 87th Annual Meeting of the *Transportation Research Board (TRB)*, January 13-17, Washington, D.C.
64. Reddy, D. V., Sobhan, K., and Young, J. (2006). "Effect of Elevated Temperature and Fire on Structural Elements Retrofitted by Carbon Fiber Reinforced Polymer Composites," 31st Conference on *Our World in Concrete and Structures*, 16-17 August, 2006, Singapore, pp. 325-335.
65. Mashnad, M. and Sobhan, K. (2005). "Identification of Material Modulus and Hysteretic Damping from Laboratory Fatigue Tests," *McMat2005: Joint ASME/ASCE/SES Conference on Mechanics and Materials*, June 1-3, 2005, Baton Rouge, Louisiana.
66. Sobhan, K., Crooks, T., Tandon, V., and Mattingly, S. (2004). "Laboratory Simulation of the Growth and Propagation of Reflection Cracks in Geogrid Reinforced Asphalt Overlays," *Cracking in Pavements – Mitigation, Risk Assessment and Prevention, Proceedings of the 5th International RILEM Conference , Limoges, France, 5-8 May 2004, Edited by C. Petit, I.L. Al-Qadi and A. Millien (RILEM Publications), 1 Vol., 740 pp., ISBN: 2-912143-47-0.*
67. Tandon, V., Mahalungkar, S., and Sobhan, K. (2004). "Evaluation of Debonding and Geosynthetics on Critical Stress Inducement in AC overlays over PCC Pavement: A Numerical Investigation," *Cracking in Pavements – Mitigation, Risk Assessment and Prevention, Proceedings of the 5th International RILEM Conference , Limoges, France, 5-8 May 2004, Edited by C. Petit, I.L. Al-Qadi and A. Millien (RILEM Publications), 1 Vol., 740 pp., ISBN: 2-912143-47-0.*
68. Sobhan, K. (2003). "Use of Recycled HDPE Strips to Improve Fracture Toughness in Soil-Cements," 12th *Pan American Conference on Soil Mechanics and Geotechnical Engineering* in conjunction with the 39th *U.S. Rock Mechanics Symposium*, Massachusetts Institute of Technology, June 22-25, 2003, Vol. 2, pp. 1779-1783.

69. Evangelisti, C., Sobhan, K., and Lozano, N. (2001). "Swelling and Permeability Characteristics of New Mexico Clays Modified with Various Recycled Materials," *Second International Conference on Engineering Materials*, San Jose, California, August 16-19, 2001, pp. 779-789.
70. Lowrey, J., Jauregui, D., Sobhan, K., and Vohra, A. (2001). "Mechanical properties of Layered Fabric Tubes Filled With Recycled Materials for the Construction of Quick-Fill Building Wall," *Second International Conference on Engineering Materials*, San Jose, California, August 16-19, 2001, pp. 195-202.
71. Mashnad, M. and Sobhan, K. (2001). "Properties of Roller Compacted Base Course Containing Recycled Aggregate and Waste Plastic Strip Reinforcement," *Second International Conference on Engineering Materials*, San Jose, California, August 16-19, 2001, pp. 169-179.
72. Sobhan, K. and Mashnad, M. (2001). "Flexural Fatigue Characteristics of a Stabilized Base Course Containing Recycled Aggregate and Waste HDPE Strips," *First International Conference on the Beneficial Use of Recycled Materials in Transportation Applications*, November 13-15, 2001, Washington, D.C.
73. Sobhan, K. and Mashnad, M. (2000). "Properties of Stabilized Soil Reinforced with Recycled Plastic Strips," *Geosynthetics Asia 2000 Conference*, May 29-31, 2000, Malaysia.
74. Sobhan, K. and Mashnad, M. (2000). "Mechanical Stabilization of Cemented Soil-Fly Ash Mixtures with Recycled Plastic Strips," *5th International Symposium on Environmental Geotechnology and Global Sustainable Development*, Minas Gerais, Brazil, August 17-23, 2000.
75. Sobhan, K., Jesick, M. R., Dedominicis, E., and McFadden, J. P. (1999). "A Soil-Cement-Fly Ash Pavement Base Course Reinforced with Recycled Plastic Fibers." Paper No. 990886. CD-ROM publication. Presented at the *78th Annual Meeting of the Transportation Research Board*, Washington D.C., January 10-14, 1999.
76. Sobhan, K. and Krizek, R. J. (1996). "Fiber Reinforced Recycled Crushed Concrete as a Stabilized Base Course for Highway Pavements, First International Conference on Composites in Infrastructure, University of Arizona, Jan. 15-17, pp. 996-1011.
77. Anandarajah, A., Sobhan, K., and Kuganenthira, N. (1993). "Fabric Anisotropy and Incremental Stress-Strain Behavior of Soils," *Proceedings, 2nd International Conference on Discrete Element Methods (DEM)*, Massachusetts Institute of Technology, March 18-19, pp. 547-556.

● **International / National Conferences**

78. Reddy, D. V., Merantus, S., and Sobhan, K. (2016). "Correlation of Chloride Diffusivity and Electrical Resistance for Cracked Concrete," *14th LACCEI International Multi-Conference for Engineering, Education, and Technology: Engineering Innovations for Global Sustainability*, July 20-22, 2016, San José, Costa Rica.
79. Martinez, F., Reddy, D. V., and Sobhan, K. (2014). "Protecting the Coastal Infrastructure against the Coupled effects of Corrosion and Catastrophic Fire", *12th Conference of the Latin American and Caribbean Consortium of Engineering Institutions*, July 22 – July 24, 2014, Guayaquil, Ecuador.

80. Sobhan, K., Ramirez, J. C., and Reddy, D. V. (2012). "Cement Stabilization of Organic Subgrades for Pavement Preservation," *Tenth LACCEI Latin American and Caribbean Conference (LACCEI'2012), Megaprojects: Building Infrastructure by fostering engineering collaboration, efficient and effective integration and innovative planning, July 23-27, 2012, Panama City, Panama.*
81. Reddy, D. V., Gonzalez-Meir, C. C., and Sobhan, K. (2012). "Response of Full-scale Drilled Shafts in Loose Soils Exposed to Induced Vibrations," *Tenth LACCEI Latin American and Caribbean Conference (LACCEI'2012), Megaprojects: Building Infrastructure by fostering engineering collaboration, efficient and effective integration and innovative planning, July 23-27, 2012, Panama City, Panama.*
82. Reddy, D. V., Edouard, J-B., and Sobhan, K. (2011). "Experimental Evaluation of the Durability of Fly-ash-based Geopolymer Concrete in the Marine Environment," *Ninth LACCEI Latin American and Caribbean Conference (LACCEI'2011), Engineering for a Smart Planet, Innovation, Information Technology and Computational Tools for Sustainable Development, August 3-5, 2011, Medellín, Colombia.*
83. Liu, L., Reddy, D. V., and Sobhan, K. (2010). "Nonlinear Structural Analysis of Fire-exposed Reinforced Concrete Columns," *Eighth LACCEI Latin American and Caribbean Conference for Engineering and Technology (LACCEI'2010) "Innovation and Development for the Americas", June 1-4, 2010, Arequipa, Perú.*
84. Liu, L., Reddy, D. V., and Sobhan, K. (2010). "Size Effects on Fire Resistance of Reinforced Concrete Columns and Beams," *Eighth LACCEI Latin American and Caribbean Conference for Engineering and Technology (LACCEI'2010) "Innovation and Development for the Americas", June 1-4, 2010, Arequipa, Perú.*
85. Liu, L., Reddy, D. V., and Sobhan, K. (2009). "Strengthening of Fire-damaged Columns by Cross-sectional Enlargement: A Computational Evaluation," *Seventh LACCEI Latin American and Caribbean Conference for Engineering and Technology (LACCEI'2009) "Energy and Technology for the Americas: Education, Innovation, Technology and Practice, June 2-5, 2009, San Cristóbal, Venezuela.*
86. Degnan W., Johnsen A., Simons L., Acopian G., Kaiser E., and Sobhan K. (2009). "Catastrophic Event Response and Planning for Baltimore MD.: Network Analysis and Case Study," *3rd Annual DHS University Network Summit, March 2009, Washington D. C.*
87. Parr S., Pentaras D., Ornitz, S., Schokkin, J. W., Kaiser E., and Sobhan K., "Evaluation of Emergency Evacuation Strategies for the Urban Chemical Disaster Federation," *2nd Annual DHS University Network Summit, March 2008, Washington D.C.*
88. Sobhan, K. (2006). "Fatigue Fracture and Permanent Deformation in Geosynthetic Reinforced Asphalt Overlays," *Proceedings of the International Conference on New Developments in Geoenvironmental and Geotechnical Engineering, 9-11 November 2006, Korean Institute of Construction Technology Education, Incheon, Korea.*
89. Sobhan, K. (2006). "Alternative Pavement Foundations with Recycled Materials: Fatigue, Damage and Durability Issues," *3rd BSME - ASME International Conference on Thermal Engineering, December 20-22, 2006, Dhaka, Bangladesh.*

90. Sobhan, K., Genduso, M. J., and Tandon, V. (2005). "Effects of Geosynthetic Reinforcement on the Propagation of Reflection Cracking and Accumulation of Permanent Deformation in Asphalt Overlays," *Third LACCEI International Latin American and Caribbean Conference for Engineering and Technology, Advances in Engineering and Technology: A Global Perspective*, 8-10 June, 2005, Cartagena, Colombia.
91. Sobhan, K. (2004). "High Performance Construction Materials from C&D Waste Aggregate and Recycled Plastics," *Second LACCEI International Latin American and Caribbean Conference for Engineering and Technology, "Challenges and Opportunities for Engineering Education, Research and Development," June 2-4, Miami, Florida*.
92. Vohra, A., Rosenfeld, A. H., Burch, J., Wilkes, K. E., Desjarlais, A., Karagiozis, A., Kosny, J., Jauregui, D., and Sobhan, K. (2001). "Highly Insulated Walls Constructed of Natural, Manufactured and Waste Materials," *Sustainable Buildings III*, BETEC'S 2001 Fall Symposium, National Institute of Building Sciences, October 17-18, Santa Fe, NM.
93. Vohra, A. H. Rosenfeld, J. Burch, K. Wilkes, A. Desjarlais, J. Kosny, A. Karagiozis, D. Jauregui, K. Sobhan, Quentin Wilson, and Bruce Salisbury (2001). "QuickFill Wall: Sustainable Wall Construction System," *Performance of the Exterior Envelopes of Whole Buildings VIII: Integration of Building Envelopes*, The 8th International Conference on Building Envelopes, December 2-7, Clearwater Beach, Florida.
94. Vohra, A., Rosenfeld, A., Jauregui, D., Sobhan, K., and Lowrey, J. (2001). "The Sandbag and Quick-Fill Walls: Sustainable Wall Construction Systems," *ASCA Year 2000 Technology Conference*, Massachusetts Institute of Technology, July 14-17, 2000.
95. Vohra, A., Rosenfeld, A., Burch, J., Wilkes, K., Desjarlais, A., Kosny, J., Karagiozis, A., Jauregui, D., and Sobhan, K. (2001). "Compressed Sustainable Insulation Wall System," *Proceedings of the National Institute of Building Sciences (NBIS) Building Environment and Thermal Envelope Councils (BETEC) Symposium on Sustainable Buildings*, Santa Fe, NM, October 2001.
96. Lozano, N., and Sobhan, K. (2001). "Deformation and Permeability of Clay-Tire Composite," *Seventh Annual International Conference on Composites Engineering, ICCE/7*, Denver, Colorado, July 2-8, 2000.
97. Lozano, N. and Sobhan, K. (2001). "Utilización de Llantas en la Industria de la Construcción," *Seminario de Tópicos Abanzados de la Maestría en Ingeniería Ambiental*, Universidad Autónoma de Ciudad Juárez, Mexico, January 19-May 24, 2000, pp. 35-38.
98. Sobhan, K. (2000). "From Waste to High Performance Materials," *46th Annual Highway Engineering Conference*, Las Cruces, NM, April 12-14, 2000.
99. Sobhan, K. (1998). "Accumulation of Fatigue Damage in a Fiber-Reinforced Base Course Material Containing Recycled Aggregate." Fifth International Conference on Composites Engineering held in Las Vegas, July 5-11, 1998, pp. 839-840.
100. Sobhan, K. (1996). "Mechanical Characterization of a Stabilized Base Course Material made from Waste Aggregate-Fiber Composite," Third International Conference on Composites Engineering, New Orleans, Louisiana, July 21-26, pp. 779-780.

- **Research Final Reports to Sponsoring Agencies**

101. Sobhan, K. (2019). "Guidelines for Assessment of Existing Foundations," Final Report, submitted to Radise International, CEATI International Inc., TODEMIG Project PI 15.09.
102. Sobhan, K., An, P-C, Sherman, R., and Romance, N. (2016). "Exploring the Disconnect between Self-Determination Theory and the Engineering Classroom," Final Report submitted to National Science Foundation, NSF Award Number 1340304.
103. Ahmad, I., Suksawang, N., Sobhan, K., Corven, J., Sayyafi, E. A., Pant, S., and Martinez, F. (2016). "Develop Epoxy Grout Pourback Guidance and Test Methods to Eliminate Thermal/Shrinkage Cracking at Post-Tensioning Anchorages: Phase II," Contract No. BDV29-977-13, Final Report submitted to the *Florida Department of Transportation*.
104. Ahmad, I., Sobhan, K., Suksawang, N., and Corven, J. (2014). "Develop Epoxy Grout Pourback Guidance and Test Methods to Eliminate Thermal/Shrinkage Cracking at Post-Tensioning Anchorages," BDK80 TWO #977-33, Final Report submitted to the *Florida Department of Transportation*.
105. Reddy, D. V., and Sobhan, K. (2012). "Size Effect on Fire Resistance of Structural Concrete," *Final Report* submitted to *United States Department of Agriculture (USDA)*.
106. Sobhan, K., and George, K. P. (2011). "Surface Pavement Solutions for Poor Subgrade Conditions – Phase II: Performance Analysis of Test Sections and Implementation Guidelines," *Final Report*, submitted to *Florida Department of Transportation*.
107. Meeroff, D., Sobhan, K., and Yong, Y. (2010). "*Investigative Learning-Centered Assessment in UG Engineering Coursework*," *Final Report*, *FAU Faculty Assessment Grants*, Institutional Effectiveness and Analysis, Florida Atlantic University.
108. Sobhan, K., and Teegavarapu, R. (2009). "Inquiry Based Learning in Classroom Teaching," *Final Report*, *FAU Center for Teaching and Learning*.
109. Reddy, D. V. and Sobhan, K. (2008). "Effects of Elevated Temperature and Fire on Structural Elements Retrofitted with Carbon Fiber Reinforced Polymer Composites," *Final Report* submitted to the *National Science Foundation*.
110. Sobhan, K. (2007). "Surface Pavement Solutions for Poor Subgrade Conditions," *Final Report*, submitted to *Florida Department of Transportation*.
111. Sobhan, K., Meeroff, D. and Templeton, R. H. (2006). "Laboratory Geotechnical Characterization of the SWA Western Landfill Site," *Final Report*, submitted to *Camp, Dresser and McKee (CDM)*, p. 71.
112. Sobhan, K. (2006). "Use of Digital Image Correlation Technique to Evaluate Damage Accumulation in Unbound Pavement Layers," *Final Report*, submitted to the *FAU Division of Research and Graduate Studies*, p. 32.
113. Jauregui, D. and Sobhan, K. (2004). "Structural test and Evaluation of New Building Envelope Systems and Components: Laboratory and Field Studies," *Final Report*, submitted to the *United States Department of Energy*.

114. Sobhan, K. and Tandon, V. (2003). “Mitigating Reflection Cracking in AC Overlays over PCC Joints using Geo-synthetics,” *Final Report*, submitted to the *Federal Highway Administration*, US Department of Transportation, Washington, D.C.
115. Jauregui, D. and Sobhan, K. (2002). “Test and Evaluate a Quick-Fill Wall”, *Final Report*, submitted to the *United States Department of Energy*.
116. Sobhan, K. and Mashnad, M. (2001). “Fatigue Durability of Stabilized Recycled Aggregate Base Course Containing Fly Ash and Waste-Plastic Strip Reinforcement,” *Final Report*, submitted to the *Recycled Materials Resource Center*, University of New Hampshire, FHWA/USDOT.

SPONSORED PROJECTS / GRANTS

Principal Agencies: National Science Foundation (NSF); US Department of Transportation and the Federal Highway Administration (USDOT / FHWA); US Department of Energy (DOE); US Department of Agriculture (USDA); Federal Emergency Management Agency (FEMA); Florida Department of Transportation (FDOT); The Johns Hopkins University / Department of Homeland Security (DHS)

1. **Title:** *Guidelines For Assessment of Existing Foundations (Transmission Lines)*
PI (s): K. Sobhan
Sponsor: RADISE International Inc. with funding from CEATI International, Canada, CEATI PROJECT No. TODEM PI 15.09; Amount: \$30,730; 2017-2019
2. **Title:** *Exploring the Disconnect between Self-Determination Theory (SDT) and the Engineering Classroom Environment*
PI (s): K. Sobhan; P-C. An, N. Romance, R. Sherman
Sponsor: National Science Foundation; Amount: \$150,000; 2013 – 2016
3. **Title:** *Barriers to STEM Reform: Exploring the Disconnect between Self-Determination Theory (SDT) and the Engineering Classroom Environment*
PI (s): K. Sobhan; P-C. An, N. Romance, R. Sherman
Sponsor: FAU SEED Grant, Division of Research; Amount: \$20,000; 2013-2015
4. **Title:** *Developing Epoxy Grout Pourback Guidance and Test Methods to Eliminate Thermal / Cracking at Post-tensioning Anchorages*
PI (s): K. Sobhan
Sponsor: Florida International University with funds received from the Florida Department of Transportation (FDOT); Amount: \$30,000; 2012 – 2016
5. **Title:** *Sustainable and Resilient Infrastructure: Fatigue and Fracture of Recycled Asphalt Pavement with Geosynthetic Reinforcement*
PI (s): K. Sobhan; L. Carlsson
Sponsor: FAU SEED Grant, Division of Research; Amount: \$15,000; 2012-2013
6. **Title:** *Pathways to Sustainable Construction: Durability of Recycled Aggregate Concrete Under Coupled Environmental and Cyclic Loading”*
PI (s): L. Gonzalez and K. Sobhan
Sponsor: Dissertation Year Award, FAU Division of Research; Amount: \$1,500; 2013 – 2014

- 7. Title:** *Fatigue and Fracture of Reinforced Overlay made from Recycled Asphalt Pavement*
PI (s): J. Polidora and K. Sobhan
Sponsor: Dissertation Year Award, FAU Division of Research; Amount: \$1,500; 2012 – 2013
- 8. Title:** *Developing a Multi-Hazard Mitigation Plan for FAU Multi-campus*
PI (s): P. D. Scarlatos, M. Arockiasamy, E. Kaiser, K. Sobhan; R. Teegavarapu
Sponsor: Federal Emergency Management Agency (FEMA); Amount: \$400,000; 2010 – 2013
- 9. Title:** *Investigative Learning-Centered Assessment in UG Engineering Coursework*
PI (s): D. Meeroff, K. Sobhan, Y. Yong
Sponsor: FAU Faculty Assessment Grants, Amount: \$8,720; 1/2010 – 9/2010
- 10. Title:** *FLC: Inquiry Based Learning in Classroom Teaching*
PI (s): K. Sobhan, R. Teegavarapu
Sponsor: FAU Center for Teaching and Learning; Amount: \$5,000; 2009 – 2010
- 11. Title:** *Transportation Simulation Modeling for Bio-terrorism preparedness and Response*
PI (s): E. Kaiser, K. Sobhan
Sponsor: The National Center for Preparedness and Catastrophic Event Response (*PACER*), The Johns Hopkins University, with funds received from the Department of Homeland Security (DHS); Amount: \$114,500; 2008 – 2009
- 12. Title:** *Transportation Simulation Modeling for Urban Chemical Disaster Federation*
PI (s): E. Kaiser, K. Sobhan
Sponsor: The National Center for Preparedness and Catastrophic Event Response (*PACER*), The Johns Hopkins University, with funds received from the Department of Homeland Security (DHS); Amount: \$114,500; 2007 – 2008.
- 13. Title:** *Surface Pavement Solutions for Poor Subgrade Conditions Phase II: Performance Analysis of Test Sections and Implementation Guidelines*
PI (s): K. Sobhan
Sponsor: Florida Department of Transportation (FDOT); Amount: \$139,813; 2007 – 2010
- 14. Title:** *Size Effect of Fire and Heat Exposure on Structural Concrete Elements*
PI (s): D. V. Reddy, K. Sobhan
Sponsor: National Science Foundation (NSF) and the US Department of Agriculture (USDA); Amount: \$29,978; 2007 – 2011
- 15. Title:** *Traffic Modeling and Simulation for Security and Emergency Response*
PI (s): E. Kaiser, K. Sobhan
Sponsor: The National Center for Preparedness and Catastrophic Event Response (*PACER*), The Johns Hopkins University, with funds received from the Department of Homeland Security (DHS); Amount: \$48,070; 2006 – 2007.
- 16. Title:** *Surface Pavement Solutions for Poor Subgrade Conditions*
PI (s): K. Sobhan
Sponsor: Florida Department of Transportation (FDOT); Amount: \$78,645; 2005 – 2007

17. **Title:** *Effects of Elevated Temperature and Fire on Structural Elements Retrofitted with Carbon Fiber Reinforced Polymer Composites*
PI (s): D. V. Reddy, K. Sobhan
Sponsor: National Science Foundation; Amount: \$24,965; 2004 – 2007
18. **Title:** *Laboratory Geotechnical Characterization of SWA Western Landfill Site*
PI (s): K. Sobhan, D. Meeroff
Sponsor: *Camp, Dresser and McKee* (CDM); Amount: \$18,056; 4/2006 – 8/2006.
19. **Title:** *Use of Digital Image Correlation Technique to Evaluate Damage Accumulation in Unbound Pavement Layers*
PI (s): K. Sobhan
Sponsor: New Project Development Award, FAU; Amount: \$15,000; 2004 – 2005.
20. **Title:** *Travel Grant to Chair Technical Committee Meetings of TRB AFS90 during the 89th Annual Meeting of the Transportation Research Board*
PI (s): K. Sobhan
Sponsor: Transportation Research Board, The National Academies; Amount: \$1345; 1/2010
21. **Title:** *Travel Grant to Chair Technical Committee Meetings of TRB AFS90 during the 88th Annual Meeting of the Transportation Research Board*
PI (s): K. Sobhan
Sponsor: Transportation Research Board, The National Academies; Amount: \$1400; 1/2009
22. **Title:** *Travel Grant to Chair Technical Committee Meetings of TRB AFS90 during the 87th Annual Meeting of the Transportation Research Board*
PI (s): K. Sobhan
Sponsor: Transportation Research Board, The National Academies; Amount: \$1200; 1/2008
23. **Title:** *Travel Grant to Chair Technical Committee Meetings of TRB AFS90 during the 86th Annual Meeting of the Transportation Research Board*
PI (s): K. Sobhan
Sponsor: Transportation Research Board, The National Academies; Amount: \$1437; 1/2007
24. **Title:** *Travel Grant to Chair Technical Committee Meetings of TRB AFS90 during the 85th Annual Meeting of the Transportation Research Board*
PI (s): K. Sobhan
Sponsor: Transportation Research Board, The National Academies; Amount: \$1254; 1/2006
25. **Title:** *Travel Grant to present paper at the 12th Pan American Soil Mechanics Conference, Massachusetts Institute of Technology (MIT), Boston, June 2003*
PI (s): K. Sobhan
Sponsor: FAU Division of Research and Graduate Studies; Amount: \$1200; 2003
26. **Title:** *Travel Grant to Technical Committee Meetings of the Transportation Research Board in Washington, D. C., January, 2004*
PI (s): K. Sobhan
Sponsor: FAU Division of Research and Graduate Studies; Amount: \$876; 2004
27. **Title:** *Research Initiation Grant*

- PI (s):** K. Sobhan
Sponsor: College of Engineering, Florida Atlantic University; Amount: \$25,000; 12/2002
- 28. Title:** *Mitigating Reflection Cracking in Asphalt Concrete (AC) Overlays over PCC Joints using Geosynthetics*
PI (s): K. Sobhan, V. Tandon
Sponsor: Federal Highway Administration, US Department of Transportation (FHWA/USDOT) Amount: \$157,000; 2001 – 2003
- 29. Title:** *Fatigue Durability of Stabilized Recycled Aggregate Base Course Containing Fly Ash and Waste Plastic Strip Reinforcement*
PI (s): K. Sobhan
Sponsor: Federal Highway Administration, US Department of Transportation (FHWA/USDOT) through the Recycled Materials Resource Center; Amount: \$69,700; 1999 – 2001
- 30. Title:** *Structural Testing and Evaluation of New Building Envelope Systems and Components: Laboratory and Field Studies*
PI (s): D. Jauregui, K. Sobhan
Sponsor: US Department of Energy (DOE); Amount: \$100,000; 2000 – 2003
- 31. Title:** *Testing and Evaluation of Quick-Fill Building Wall*
PI (s): D. Jauregui, K. Sobhan
Sponsor: US Department of Energy (DOE); Amount: \$25,000; 1999 – 2000
- 32. Title:** *Construction and Evaluation of Laboratory Scale Multi-Layered Pavement Structure Containing Crushed Demolition Wastes, Fly Ash and Recycled Plastics*
PI (s): K. Sobhan
Sponsor: Waste Management Education and Research Consortium (WERC), US Department of Energy (DOE); Amount: \$7,000; 2000 – 2001
- 33. Title:** *HiCREST Undergraduate Research Grant*
PI (s): D. Jauregui, K. Sobhan
Sponsor: Waste Management Education and Research Consortium (WERC), US Department of Energy (DOE); Amount: \$5,000; 1999 - 2000
- 34. Title:** *Research Initiation Grant*
PI (s): K. Sobhan
Sponsor: College of Engineering, New Mexico State University; Amount: \$50,000; 1999
- 35. Title:** *Undergraduate Research Grants to Students*
PI (s): K. Sobhan, 5 UG students
Sponsor: Alliance for Minority Participation (AMP), with funding from the National Science Foundation; \$3000 per student; Amount: \$15,000; 2000 - 2002
- 36. Title:** *Undergraduate Summer Research Scholarships*
PI (s): K. Sobhan
Sponsor: Bucknell University; Amount: \$2,000; 1998
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K-12 OUTREACH PROGRAMS

CGN 1500: *Discoveries in Engineering: Innovative Materials for Infrastructure*: developed for and offered to dual-enrollment, high-achieving high-school students during summer 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017 (*Engineering Scholar's Program*) and Spring, 2007 (*Engineering Academy*).

SUPERVISION OF CAPSTONE SENIOR DESIGN

I have supervised 26 undergraduate students in 10 Capstone Senior Design Projects at 3 Universities during 1997-2004.

TEACHING SUMMARY (1995 - 2019)

| COURSES TAUGHT | TIMES OFFERED | NO. OF STUDENTS |
|---|----------------------|------------------------|
| Mechanics of Materials | 9 | 150 |
| Materials Science and Engineering | 4 | 183 |
| Soil Mechanics | 40 | 1,264 |
| Advanced Soil Mechanics | 1 | 4 |
| Foundation Engineering | 28 | 650 |
| Advanced Foundation Engineering | 14 | 79 |
| Statics | 3 | 169 |
| Engineering Graphics | 2 | 75 |
| Graphical Spat. Ana./ CE Fundamentals | 5 | 105 |
| Fundamentals of AutoCAD | 8 | 209 |
| Discoveries in Engineering: Innovative Materials for Infrastructure | 12 | 287 |
| Pavement Analysis/Design | 15 | 199 |
| Soil Stabilization/Geosynthetics | 2 | 30 |
| Capstone Senior Design (10 projects) | 7 | 26 |
| Directed Independent Study | 12 | 12 |
| TOTAL = 15 Different Courses | | |

ENGAGING UNDERGRADUATES IN RESEARCH

I have supervised nearly 30 undergraduate students in Research and Independent Study projects at 3 Universities during 1995 – 2014.

GRADUATE STUDENT SUPERVISION

Total: 71 graduate students; Chaired/Co-chaired: 45 MS theses / Ph.D. dissertations

| STUDENT | THESIS/DISSERTATION TITLE | DEGREE | ROLE | DATE |
|----------------|----------------------------------|---------------|-------------|-------------|
|----------------|----------------------------------|---------------|-------------|-------------|

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|-----------------------|---|-------------|-----------------------|-------------------|
| Anhar Sarsour | <i>Corrosion and Fatigue Resistance of Geopolymer Concrete with Recycled Aggregate</i> | Ph.D. | Chair | Expected 12/2022 |
| Olfat Sarangzadeh | <i>Smart Adaptive Foundation Column Systems under Extreme Conditions: Numerical Investigation</i> | Ph.D. | Chair | Expected 12/2021 |
| Jamie B. Polidora | <i>Fatigue and Fracture of Recycled Asphalt Pavement containing Geosynthetic Reinforcement</i> | Ph.D. | Chair | Completed 12/2017 |
| Lillian Gonzalez | <i>Durability of Recycled Aggregate Concrete as a sustainable construction material under coupled environmental exposure and cyclic loading</i> | Ph.D. | Chair | Completed 5/2014 |
| Duferne Dessalines | <i>Probabilistic Finite Element Analysis of Landfill Stability under Extreme Conditions</i> | Ph.D. | Chair | Expected 12/2021 |
| Lixian Liu | <i>Size Effect of Fire and Heat Exposure on Structural Concrete Elements</i> | Ph.D. | Co-Chair | Completed 12/2009 |
| Arvan Prakash Ankitha | <i>Seismic Analysis of Pile/Column to Cap Connections</i> | Ph.D. | Comm. member | 5/2021 (expected) |
| Guillermo Munoz | <i>Earthquake resistant analysis for design of bamboo resistant housing</i> | Ph.D. | Comm. member | Completed 12/2018 |
| Mojtaba M. Afzali | <i>Development of Methods to Evaluate Effectiveness of Asphalt Binder Recycling</i> | Ph.D. (FIU) | External Comm. Member | Completed 5/2017 |
| | | | | |
| Jorge Suarez | <i>Effects of Cement Alkalinity on the Control of Reinforcing Steel Corrosion in Concrete</i> | Ph.D. | Comm. Member | Completed 12/2006 |
| Gary Sheu | <i>Crystallographic Finite Element Modeling of Dislocation Generation in Semiconductor Crystals Grown by VGF Process</i> | Ph.D. | Comm. Member | Completed 11/2005 |
| Camilla Ribiero | <i>Geophysical techniques for Peat characterization</i> | MS | Chair | Expected 12/2020 |
| Caique Martins | <i>Coupled effects of geosynthetics and randomly distributed fibers on the stability of reinforced slopes</i> | MS | Chair | Completed 5/2019 |
| Monica Mendelson | <i>Effects of repeated wet-dry cycles on the compressive strength of fly ash based recycled aggregate geopolymer concrete</i> | MS | Chair | Completed 05/2018 |
| Yanet Comas | <i>Prediction of fatigue strength of recycled aggregate concrete using ANN</i> | MS | Chair | Expected 08/2020 |
| Sharmila Pant | <i>Stability analysis of geosynthetic reinforced MSW landfill slopes considering effects of biodegradation and extreme wind loading</i> | MS | Chair | Completed 05/2016 |
| Daniel Gozalez-Moya | <i>Effects of granulometric parameters and mix proportions on the shear strength of binary granular mixtures</i> | MS | Chair | Completed 05/2016 |
| Denys Purdy | <i>Identifying shallow foundation failure modes and mechanisms using surveillance of a transparent granular soil surrogate</i> | MS | Chair | Completed 5/2017 |
| Guangfeng Peng | <i>Exploring relationships among aggregate surface area, cement content and strength for an optimized design</i> | MS | Chair | Expected 05/2020 |
| Farah Alawadi | <i>Strength and modulus of recycled aggregate concrete subjected to wetting and drying cycles</i> | MS | Chair | Completed 5/2018 |

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|---------------------|--|--------------|----------|-------------------|
| Ivan Gerasimovic | <i>Effect of curing temperature on the compressive strength of fly-ash based geopolymer concrete with recycled aggregate</i> | MS | Chair | Expected 08/2020 |
| Anhar Sarsour | <i>Time-stress-compressibility Characteristics of Cementitiously Stabilized Organic Soils</i> | MS | Chair | Completed 12/2014 |
| Lucrece Riche | <i>Use of Ultrasonic Pulse Velocity Methods for Dynamic Elastic Properties of Asphalt Concrete</i> | MS | Chair | Expected 12/2020 |
| Spencer Wagaanar | <i>Influence of median grain size ratio on the strength and liquefaction potential of loose granular fills</i> | MS | Chair | Completed 05/2016 |
| Etienne Wolmarans | <i>Evaluating the Statistical Variability of Cone Penetration Testing Data on Organic Soils using a Monte Carlo Simulation Technique</i> | MS | Chair | Completed 05/2014 |
| Noel Rodriguez | <i>Development of Maturity Functions for Recycled Aggregate Concrete</i> | MS | Chair | Expected 12/2020 |
| Tara Devine | <i>Effect of Median Grain Size Ratios on the Compaction Behavior of Binary Granular Mixes</i> | MS | Chair | Completed 12/2012 |
| Francisco Martinez | <i>Corrosion Resistance of Fiber-reinforced Geopolymer Concrete in the Marine Environment</i> | MS | Chair | Completed 05/2014 |
| Roody Numa | <i>Strength, Toughness and Durability of Fiber Reinforced Recycled Aggregate Concrete</i> | MS | Chair | Completed 5/2011 |
| Alex Lima-Arie | <i>Performance Evaluation and Life Cycle Analysis of Reinforced Asphalt Pavements</i> | MS | Chair | Completed 12/2010 |
| Lillian Gonzalez | <i>Durability Prediction of Recycled Aggregate Concrete under Accelerated Aging and Environmental Exposure</i> | MS | Chair | Completed 12/2010 |
| Jonathan Glenn | <i>Effect of Nano Inclusions in Cementitious Materials: A Statistical Evaluation of Laboratory Data</i> | MS | Chair | Completed 5/2013 |
| Daniel Pohly | <i>Field Performance of Reinforced Asphalt Pavements Built over Soft Organic Soils</i> | MS | Chair | Completed 12/2009 |
| Juan Ramirez | <i>Cementitious Stabilization of Organic Soils for Controlling the Secondary Compression Behavior</i> | MS | Chair | Completed 12/2009 |
| Rodrigo Ledezma | <i>Dynamic Characterization and Forensic Investigation of Reinforced Asphalt Pavement Cores fro SR 15 / US 98</i> | MS | Chair | Completed 12/2009 |
| Jamie Fraser | <i>Accelerated Aging and Testing Protocol for Durability of Roller Compacted Recycled Aggregate Concrete</i> | MS | Chair | Completed 5/2008 |
| Anthony Theodoro | <i>Strength and Durability of High Performance Structural Concrete with Recycled Aggregate</i> | MS | Chair | Completed 5/2008 |
| Riti Waghray | <i>Finite Element Based Evaluation of Geosynthetic Reinforced Asphalt Pavements over Soft Soils</i> | MS (Project) | Chair | Completed 5/2009 |
| Petrina Butler | <i>Finite Element Simulation of FRP Retrofitted Structural Elements Exposed to Fire</i> | MS (Project) | Chair | Completed 5/2008 |
| Robert H. Templeton | <i>Innovative Vertical Expansion of Existing Landfills: A Numerical Simulation</i> | MS | Chair | Completed 5/2007 |
| AKM Zahirul Islam | <i>Damage Accumulation in AC Overlays due to Cyclic Loads: An Analysis of Loading Data</i> | MS (Project) | Chair | Completed 5/2007 |
| Kris Riedy | <i>Primary and Secondary Compression Behavior of Florida Organic Soils</i> | MS | Chair | Completed 5/2006 |
| Hieu Huynh | <i>Use of Piezocone Penetration Tests for Rapid In-Situ Characterization of Florida Organic Soils</i> | MS | Chair | Completed 5/2006 |
| Jody Young | <i>Effects of Fire on the Behavior of FRP Strengthened Structural Elements</i> | MS | Co-Chair | Completed 5/2006 |

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|-----------------------|---|--------------|--------------|-------------------|
| Michael J. Genduso | <i>Permanent Strain Accumulation in a Granular Material due to Cyclic Loading</i> | MS | Chair | Completed 5/2005 |
| Michael K. Tam | <i>Modeling of AC Overlay Pavement System and Comparison with Experimental Data</i> | MS | Chair | Completed 12/2003 |
| Toby Crooks | <i>Effects of Geogrids on the Formation and Propagation of Reflection cracks in Asphalt Overlays Placed over Concrete Joints</i> | MS | Chair | Completed 12/2002 |
| Carlo Evangelisti | <i>Stabilization of an Expansive New Mexico Clay using Fly Ash and Recycled High-Density Poly Ethylene (HDPE) Strips</i> | MS | Chair | Completed 12/2001 |
| Mehedy Mashnad | <i>Static and Dynamic Properties of Fiber-Reinforced Roller Compacted Concrete made of Recycled Materials</i> | MS | Chair | Completed 5/2001 |
| Khadim, Fahad Khan | <i>Water and Soil Salinity Mapping for Southern Everglades using Remote Sensing Techniques and In Situ Observations</i> | MS | Comm. Member | Completed 5/2018 |
| Taraneh Ardalan | <i>Development of Guidelines for Implementation of Freight and Transit Signal Priorities to Enhance Road Traffic Sustainability</i> | MS | Comm. Member | Completed 5/2020 |
| Stanley Merantus | <i>Correlation of Chloride Diffusivity and Electrical Resistance for Sound and Cracked Concrete</i> | MS | Comm. Member | Completed 7/2017 |
| Fernando Martinez | <i>Fire resistance of corroded structural concrete</i> | MS | Comm. Member | Completed 12/2014 |
| Oscar Calle | <i>Structural dynamics of cables in cable-stayed bridges</i> | MS | Comm. Member | Completed 12/2014 |
| Amy Sirmans | <i>Factors Contributing to Total Nitrogen and Total Phosphorus Runoff from Highway Slopes</i> | MS | Comm. Member | Completed 05/2015 |
| Dusan Jolovic | <i>Using Microsimulation and NGSIM Data to Validate HCM Methodology for Oversaturated Freeway Weaving Segments</i> | MS | Comm. Member | Completed 5/2012 |
| Meba Solomon | <i>Effect of Fire on Bond of Prestressed/Precast Structural Elements</i> | MS | Comm. Member | Completed 12/2015 |
| Claudia Olarte | <i>Operational and Environmental Comparisons between Left-turn Bypass, Diverging Flow, and Displaced Left-turn Intersection Designs</i> | MS | Comm. Member | Completed 5/2011 |
| Nikola Mitrovic | <i>Minimization of overall person delay at light rail transit crossings on congested urban arterials</i> | MS | Comm. Member | Completed 5/2011 |
| Borja Gallettebeitia | <i>Comparative analysis between the Diverging Diamond interchange and partial Cloverleaf interchange using microsimulation modeling</i> | MS | Comm. Member | Completed 11/2011 |
| R. M. Zahid Reza | <i>Evaluation of the Road-Side Safety Measures in Florida Highways</i> | MS | Co-Chair | Completed 5/2012 |
| Rocky Brett Janney | <i>Advancements in Calculating Dynamic Stiffness and Seismic Response of Pile Groups</i> | MS | Comm. Member | Completed 5/2010 |
| Heather Anesta | <i>The effect of circular openings through the width of reinforced concrete beams of regular depth</i> | MS (Project) | Comm. Member | Completed 12/2010 |
| Daniel Grijalba | <i>Centrally Pre-stressed Fiber Reinforced Concrete Columns</i> | MS | Comm. Member | Completed 5/2011 |
| Jean-Baptiste Edouard | <i>Corrosion Resistance of Geopolymer Concrete in the marine environment</i> | MS | Comm. Member | Completed 12/2010 |

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|---------------------|---|--------------|--------------|-------------------|
| Renato Silva | <i>Finite Element Analysis of Centrally-Prestressed Fiber Reinforced Concrete Columns</i> | MS (Project) | Comm. Member | Completed 5/2011 |
| Renato Vargas | <i>The West Closure Complex's Sluice Gated Structure</i> | MS (Project) | Comm. Member | Completed 6/2011 |
| Diana Arboleda | <i>Use of Rice Husk Ash / Fly Ash Ternary Concrete Mixes in the Marine Environment</i> | MS | Comm. Member | Completed 5/2010 |
| Kenzot Jasmin | <i>Pavement Damage due to Heavy Truck Traffic</i> | MS (Project) | Comm. Member | Completed 5/2009 |
| Sergio Fagundo | <i>Analysis of Floating Breakwater</i> | MS (Project) | Comm. Member | Completed 12/2008 |
| Victor Gutierrez | <i>Corrosion Damage in Marine Concrete Piles</i> | MS (Project) | Comm. Member | Completed 5/2008 |
| Marcelina Alvarez | <i>Rice-Husk Ash Modified Reinforced Concrete in the Marine Environment</i> | MS | Comm. Member | Completed 5/2007 |
| Juan Carlos Bolivar | <i>Cost-effective Repairs of Marine Piles</i> | MS | Comm. Member | Completed 5/2008 |
| Mathew Maxey | <i>Non thesis</i> | MS | Chair | Completed 12/2005 |
| Osama Elshami | <i>Non thesis</i> | MS | Chair | Completed 12/2005 |
| Kathleen Hopkins | <i>Non thesis</i> | MS | Member | Completed 12/2005 |

SERVICES SUMMARY

1. **Chair**, Department Tenure/Promotion (Personnel) Committee (2019-present)
2. **Member**, College Graduate Committee (2019-present)
3. **Member of Internal Program Review Committee**: Arts and Letters, Honors College, College of Nursing (2019)
4. **College Personnel (Tenure/Promotion) Committee** (2019-present)
5. **Sustained Performance Evaluation Committee**, Provost's office (2013-2016)
6. **Chair, Personnel Committee**, College of Engineering and Computer Science (2016-2018)
7. Member, **Program Review Committee**, College of Arts and Letters, FAU; Programs under review: English, Philosophy, Jewish Studies, History, Language, Linguistics, and Comparative Literature, Communication/Multimedia, and Interdisciplinary Studies; (2012)
8. Member, **Provost Task Force on Faculty Success**, FAU (2011-2012)
9. **Faculty President**, College of Engineering and Computer Science, FAU (2010 – 2013)
10. **Chair, College Graduate Committee**, College of Engineering and Computer Science, FAU (2005-2010); Chaired the 6-member committee involved with graduate curriculum, policies, new degree programs, new course approvals, program reviews, graduate assistantships; thesis / dissertation issues.
11. **Graduate Director**, Civil, Environmental and Geomatics Engineering, FAU (2009-present); Responsible for all **graduate admissions, advising, Plan of Study, graduate course registration, degree application, degree certification, up to graduation.**
12. Member, **College Personnel Committee** (Tenure/Promotion), 2013-present
13. Member, **College Policy and Development Committee** (2010 – 2013)
14. Member, **University Graduate Council**, FAU (2006-2010)

15. Member, Due Process Committee of the University Graduate Council, FAU (2006-2010)
16. Member, Boca Faculty Senate, Florida Atlantic University (2009-2012)
17. Member, College of Engineering Graduate Committee, FAU (since 2003)
18. Member, Selection Committee, FAU Graduate Mentoring Award (2010, 2011, 2012)
19. Member, Civil Engineering Chairman Search Committee, FAU (2005)
20. Member, Civil Engineering Faculty Search Committees, FAU (2003, 2004, 2005, 2006,2008)
21. Advisor, ASCE Student Chapter of FAU (2004-2006)
22. Personnel Committee: Dean's Faculty Award Selection, January 2005
23. Review Panel, New Project Development Proposals, FAU Division of Research (2004)
24. Member, College of Engineering Dean Search Committee, NMSU (2002)
25. Member, Faculty Senate, New Mexico State University (2002)
26. Member, Scholastic Affairs Committee, New Mexico State University (2002)
27. Member, Engineering Academic Council, New Mexico State University (2001-2002)
28. Chair, Geotechnical Faculty Search Committee, NMSU (2001-2002)
29. Chair, Civil Engineering Graduate Committee, NMSU (2001-2002)
30. Member, Civil Engineering Recruitment Committee, NMSU (2001)

JOURNAL TECHNICAL REVIEW

Review History (1997-2019): I reviewed nearly 15 technical papers/year in 20 years for the following technical journals.

ASCE Journal of Transportation Engineering; (2) Transportation Research Board (TRB); (3) ASCE Journal of Geotechnical and Geoenvironmental Engineering; (4) ASTM Geotechnical Testing Journal; (5) Journal of Geotechnical and Geological Engineering, Netherlands; (6) ASCE Geotechnical Special Publication (GSP); (7) International Journal of Pavement Engineering (IJPE); (8) Journal of Solid Waste technology and Management; (9) Waste Management Journal; (10) ASCE Journal of Materials in Civil Engineering

TEXTBOOK REVIEW

Reviewed the manuscripts for the following textbooks:

1. *Soil Mechanics Laboratory Manual* by B. M. Das, Cengage Publishing, 2010.
2. *Introduction to Geotechnical Engineering* by Holtz and Kovacs (1st Edition); Prentice Hall, 2004.
3. *Principles of Foundation Engineering* by B. M. Das (5th Edition), Brooks/Cole Publishing, 2004.
4. *Fundamentals of Geotechnical Engineering* by B. M. Das (2nd Edition), Brooks/Cole Publishing, 2003.

RESEARCH AND EDUCATIONAL WORKSHOPS / TRAININGS / WEBINARS

1. Webinar – *Building an Online Learner Community: What to Stop, Start, and Keep Doing*, Mentor Collective, Boston, Massachusetts, February 18, 2020.
2. 2020 Diversity Symposium, *Fostering Awareness, Engagement and Inclusion*, January 23rd, 2020, Florida Atlantic University.
3. Webinar – *Increasing Graduate Student Success: University of Colorado Maximizes the Impact of Mentorship*, Mentor Collective, Boston, Massachusetts, February 5, 2020.
4. Council of Graduate School (CGS) 58th Annual Meeting, December 5-8, 2018, Washington, D.C.
5. e-Learning Designer and Facilitator Semester-long Training Program, FAU, Fall, 2011
6. *Deep Foundations: Pile Driving*, 1-week *Faculty Teaching Workshop* (June, 2004) at Utah State University, Pile Driving Contractor's Association (PDCA). Teaching tools, CDs, videos and design

software obtained from the workshop are being used in the teaching of the *Foundation Engineering* course (CEG 4012/6105) at FAU.

7. *NSF Day at Florida Atlantic University*, November 6, 2003; 1-day workshop presented by NSF Personnel/Program Managers focused on proposals and funding.
8. *Structural Strengthening, Load Testing and Advanced Technologies in PT Systems*, 1-day Seminar presented by the *Structural Group*, Coral Gables, FL, June 18, 2004.
9. *District Materials Engineers Meeting*, FDOT Materials Office, Gainesville, October, 2003.
10. *FDOT 2004 Construction Conference*, Orlando, FL, March, 2004.
11. *FDOT Annual Materials Research Updates*, USF Campus, Tampa, FL, May 2004.
12. "WebCT in a Day" – Intensive hands on workshop on preparing, setting, and administration of a course on-line in the World Wide Web, November 27, 2001.
13. *Engineering Pavements for the 21st Century: Workshop on AASHTO 2002 Design Guide*; sponsored by the Transportation Research Board, Newport, Rhode Island, April 25-27, 2000.
14. *Professor Training Course on Asphalt Technology (SUPERPAVE)*, June 13-22, 2000, National Center for Asphalt Technology (NCAT), Auburn University, Auburn, Alabama.
15. *Workshop and Panel Discussions: AASHTO 2002 Pavement Design Guide*, 79th and 80th Annual Meetings of the TRB, January, 2000-2001, Washington D.C.
16. *Teaching Enhancement Workshop*, New Mexico State University, October, 1999
17. *An Overview of Pavement Management Systems: A web-based short course offered by National Highway Institute and Nichols Consulting Engineers* (July, 1999).
18. *Research Quality Initiative (RQI) Workshop* sponsored by the New Mexico State Highway and Transportation Department, Albuquerque, NM (November, 1999, 2000).
19. *Pavement Design and Management*, Arizona State University (October, 1993)
20. *Sixteenth Central Pennsylvania Geotechnical Seminar: Excellence in Geotechnical Engineering*, October 22-24, 1997, Camp Hill, Pennsylvania
21. *Symposium and Workshop on Time Domain Reflectometry in Environmental, Infrastructure, and Mining Applications*, Northwestern University (Sep. 1994).
22. *Technology Transfer Day : Fiber-Reinforced Cement-Based Materials - NSF Center for Advanced Cement-Based Materials*, Northwestern University (March, 1993)
23. *Deep Foundations Institute: 16th Annual Meeting*, Chicago, IL, October 7-9, 1991.

RESEARCH RECOGNITION

1. My research on innovative geosynthetic solutions to soft subgrade conditions were highlighted in the *Research Showcase Magazine* (2007) of the Florida Department of Transportation (Fall/Winter 2007).
2. April, 2001 issue of "Rocky Mountain Construction Magazine" highlighted and published an article on my research. It was titled: "Recycled Subbase Material: cement, fly Ash, recycled concrete, and milk carton plastic form road base of the future," Vol. 82, No. 8, pp. 14-18.
3. July/August 2000 issue of *Public Roads* magazine (published by the USDOT/FHWA) highlighted my research project on Fatigue Durability of Stabilized Recycled Aggregate (Page 14).
4. September 4, 2000 issue of *Las Cruces Sun-News* (daily news paper) published an article titled "Engineers Study Walls Made of Pecan Shells" highlighting my "Quick-Fill" wall project sponsored by the Department of Energy (DOE).

HONORS AND AWARDS

1. Recipient of 2018 McGuffey Longevity Award, Textbook & Academic Authors Association (TAA), during the 31st Annual TAA Conference, June 15, 2018, Santa Fe, New Mexico.
2. **2016/2017** Award for Excellence and Innovation in Undergraduate Teaching, Florida Atlantic University, April, 2016.
3. **2009 Excellence in Graduate Mentoring Award**, Graduate College, Florida Atlantic University.
4. **2006/2007** Award for Excellence and Innovation in Undergraduate Teaching, Florida Atlantic University, April, 2007.
5. **TRB Practice-Ready Paper Catalog:** Sobhan, K., George, K. P., Pohly, D. and Ali, H. (2010). “Stiffness Characterization of Reinforced Asphalt Pavement Structures Built Over Soft Organic Soils,” *Transportation Research Record: Journal of the Transportation Research Board*, Volume 2186, pp. 67-77.
6. **TRB Practice-Ready Paper Catalog:** Ali, H., and Sobhan, K. (2012). “On the Road to Sustainability: Properties of Recycled Superpave Mixes,” accepted for publication in the *Transportation Research Record: Journal of the Transportation Research Board*. To appear in 2012.
7. **International Paper Award:** Reddy, D. V., Gonzalez-Mier, C. S., and Sobhan, K. (2012). “Response of a Freshly Placed Full Scale Concrete Drilled Shaft to Vibrations Induced by Adjacent Shaft Installation,” 37th Conference on *Our World in Concrete and Structures*, Singapore, August 29-31, 2012. Received the American Concrete Institute Singapore Chapter Award for an *Outstanding and Original Paper*.
8. **International Paper Award:** Liu, L., Reddy, D. V., and Sobhan, K. (2009). “A Simplified Method for Estimating Load Capacity of Three-side Fired Damaged Columns/Beams,” *34th Conference on Our World in Concrete and Structures*, Singapore, September 16-18, 2009. Received the American Concrete Institute Singapore Chapter Award for an *Outstanding and Original Paper*.
9. STUP Consultants Award for an Outstanding and Original Paper, 31st Conference on *Our World in Concrete and Structures*, 16-17 August, 2006, Singapore, pp. 325-335 (D. V. Reddy, K. Sobhan, and J. Young)
10. Civil Engineering Professor of the Year Award, New Mexico State University (2001)
11. Member of *Chi-Epsilon*, the National Civil Engineering Honor Society
12. Teaching and Research Assistantships: Northwestern University, The Johns Hopkins University and University of Miami (August 1988 - August 1995)
13. Letter of recognition for teaching excellence awarded by the Civil Engineering Department at Northwestern University in 1992.
14. Government Talent Pool Scholarship for securing First Position among 63,000 students in the nationwide Secondary School Certificate (SSC) examination in 1980, and Second Position among 40,694 students in the nationwide Higher Secondary Certificate (HSC) examination in 1982.
15. Civil Engineering Merit Scholarship (First Class, Top 5%; 1987)
16. Rotary Club Dhaka South Award for academic excellence in 1982

WORK EXPERIENCE / CONSULTING

1. Geotechnical Consultant for *Millennium Condominium*, 18671 Collins Avenue, Sunny Isles Beach, Florida 33160 (August, 2015). Project: *Damage to Millennium Condominium due to Vibrations caused by the Construction Activities of the Adjacent Porsche Tower*.
2. Consultant for **The World Bank** project titled “Benchmarking of the Central Soils and Materials Research Station (CSMRS),” New Delhi, India; Agricultural and Rural Development Division, **The World Bank**, International Bank for Reconstruction and Development, Washington, D.C.; (6/2012 – 12/2012).
3. *Reddy Engineering*, Part-time consultant (2003 – present)
4. Misc. geotechnical, materials, testing, and design projects (2003-present).
5. Shanghai Harbor Soft Soils Technology, Shanghai, China, Summer, 2009.

6. Compressibility/Settlement of Muck, Fort Lauderdale, FL (GFA International, 2004)
7. Oshkosh Wisconsin Pipe Failure Analysis – Comprehensive Evaluation (2005)
8. Fish Creek Wall Analysis, Colorado (2005)
9. Computer Data Specialist, Space Telescope Science Institute of the National Aeronautics and Space Administration (NASA) (1991)
10. Consolidation and direct shear tests on sandy clay and Peat (Miami, 1989)
11. Miscellaneous consulting on buried pipes, pavement design, soil stabilization (8/99-present).
12. Installation, construction, and instrumentation of drilled shaft foundations (1993).