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### **Areas of Expertise**

- Foundation design and analysis
- Numerical modeling in geotechnical engineering
- Soil testing/evaluation/improvement
- Slope stability analysis

### **Education**

- Ph.D. in Geotechnical Engineering, The Pennsylvania State University, University Park, 1995
- M.ENG. in Geotechnical/Structural Engineering, The Pennsylvania State University, University Park, 1991
- B.S. in Civil and Hydraulic Engineering, Chung-Yuan Christian University, Taiwan, 1985

### **Experience**

- Assistant Professor/Associate Professor/Professor, Civil Engineering Department, Lamar University, Beaumont, Texas, 1998 – Present
- Project Engineer/Geotechnical Engineer, GTS Technologies, Inc. Harrisburg, PA / Fairfax, VA, 1995 – 1998
- Graduate Assistant/Lab Instructor, The Pennsylvania State University, University Park, PA, 1990 – 1994
- Project Engineer, South Link Railway Engineering Project Office, Department of Transportation, Pingtung, Taiwan 1987-1988
- Civil Engineer, Giasan Engineering Project Office, Hualian, Taiwan, 1985 - 1987

### **Awards and Professional Membership**

- Chi Epsilon, National Civil Engineering Honor Society, James M. Robbins Excellence-in-Teaching National Award , 2003
- Chi Epsilon, National Civil Engineering Honor Society, James M. Robbins Excellence-in-Teaching Award for the Southwest District, 2003
- University Merit Award, Lamar University, 2003
- Who's Who in the World, 25th Edition, 2008
- Who's Who in Science and Engineering, 7th Edition, 2003 - 2004
- Who's Who in America, 56th Edition, 2002
- Who's Who Among America's Teachers, 7th Edition, 2002

- Member, Sigma Xi (International Society of Scientific and Engineering Research), 1999 – present
- Member, Phi Kappa Phi (National Honor Society), 1993 – present
- Member, Chi Epsilon (National Civil Engineering Honor Society), 1990 - present

### **Selected Publications**

- T. Thuy Minh Nguyen, Saeed Rabbanifar, Nicholas A. Brake, Qin Qian, Kyle Kibodeaux, Harold E. Crochet, Soheil Oruji, Remington Whitt, Jashua Farrow, Brandon Blaire, Paul Bernazzani, and Mien Jao “Stabilization of Silty Clayey Dredged Material” accepted for publication in the Journal of Materials in Civil Engineering, ASCE (date of acceptance : 02/21/18)
- T. Thuy Minh Nguyen, Saeed Rabbanifar, Qin Qian, Nicholas A. Brake Kyle Kibodeaux, Harold E. Crochet, Soheil Oruji, Remington Whitt, Jashua Farrow, Brandon Blaire, Paul Bernazzani, and Mien Jao “Stabilization of Dredged Material using Bioenzyme” submitted to the Geotechnical Testing Journal for possible publication (1st revision, date of re-submission: 02/22/18)
- Nicholas Andres Brake, Mien Jao, Dan Su, “Integrating 3D printing and design-build-test projects into a civil engineering curriculum to build confidence”, Journal of Professional Issues in Engineering Education and Practice, ASCE, Volume 144, Issue 2, April, 2018
- M.Jao, F. Ahmed, G. Sudani, S. Gudavally, T.T.M. Nguyen, and M. C. Wang, “Interaction between Strip Footings and Sheetpile Walls”, Electronical Journal of Geotechnical Engineering, Bundle 6, 2017 <http://www.ejge.com/2017/Ppr2017.0160ma.pdf>
- Qian, Q., Ketabdar, M., Jao, M., & Aung, K. (in press, 2017). Using Diffusion Model to predict runoff for Assessment on Sediment Load and Transport in Storm Drain System. *American Society of Civil Engineering EWRI congress conference.*
- Qin Qian, Benjamin Kolkmeier, Lin Su , Xing Wu, Mien Jao, Robert Yuan, Keh-Han Wang, Victor Zaloom, “Streambank Erosion and Protection Due to Wake Wash in the Sabine Neches Waterway” MTEPC conference November, 2017, Taipei
- Qin Qian, Milad Ketabdar, Mien Jao, and Ken Aung, “Sediment Transport Mechanics in Coastal Plain Shallow-Grade Storm Drain Systems” Proceedings of the inaugural World Transport Convention, Beijian, China, June 4-6, 2017
- Qin Qian, Mien Jao, Jeremiah Fox, Experimental Study on Shorline Erosion using EM2 Geomodel. American Society of Civil Engineering EWRI congress conference, May 22-26, 2016, West Palm Beach, FL.
- Gassan Sudani, Nicholas Brake, and Mien Jao, “Stability of Footings Adjacent to Pile Walls”, International Journal of Geomechanics, ASCE, Vol. 15, No.2, December, 2015

- Nutan Palla, Suresh Gudavalli, Liang Chao, M. Jao, and M.C. Wang, “Numerical Analysis of Texas Cone Penetration Test”, *International Journal of Applied Science and Technology*, Vol.2, No.3, pp. 1-6, March 2012
- S. Dessouky, M. Yang, M. Ilias, J. Oh, S. Lee, T. Freeman, M. Bourland, and M. Jao, “Pavement Repair Strategies for Selected Distresses in FM Roadways”, Final Project Report 0-6589-1, Texas Department of Transportation, July 2012
- Mark Bourland, Byungik Chang, and Mien Jao, “Evaluation of Superheavy Load Criteria for Bridges”, Final Project Report 0-6438, Texas Department of Transportation, November, 2011
- N. Palla, L. Chao, M. Jao, and M.C. Wang, “Correlating Undrained Shear Strength of Clay with Blow-Count of Texas Cone Penetrometer”, *Electronic Journal of Geotechnical Engineering*, Vol.15, Bun. A, February 2010.
- \*N. Palla, S. Gudavalli, Liang Chao, and M. Jao, “Soil Properties of CH Soils in Southeast Texas”, Proceedings of 2009 ASCE Texas Section Fall Meeting, CD-ROM (9 pages).
- M. Jao, F. Ahmed, G. Muninarayana, M. C. Wang, “Behavior of Eccentrically Loaded Footings on Slopes”, *Journal of Geomechanics and Geoengineering*, Vol. 3, No. 2, June 2008, pp. 107-111.
- M. C. Wang, M Jao, and M. S. Ghazal, “Heating Effect on Swelling Behavior of Expansive Soils”, *Journal of Geomechanics and Geoengineering*, Vol. 3, No2. June 2008, pp. 121-127.
- S. Gudavalli, N. Palla, C. Vipulanadan, A. J. Puppala, M. Jao, X. Fang, S. Yin, and M.C. Wang, “Development of Correlation between TCP Blow Count and Undrained Shear Strength of Low Plasticity Clay”, *Geotechnical and Geophysical Site Characterization*, April 2008 Taylor & Francis Group, London, pp. 1401-1404.
- N. Palla, S. Gudavalli, B. Subedi, and M. Jao, “A Comparison among SPT, CPT and Texas Cone Penetration Test”, Proceedings of 2008 ASCE Texas Section Spring Meeting, CD-ROM (10 pages).
- S. Gudavalli, S. Gupta, N. Palla, M. Jao, M. Srinivasan, Xing Fang, S. Yin, and M.C. Wang, “Finite Element Analysis of Texas Cone Penetration Test”, Proceedings of 2007 ASCE Texas Section Spring Meeting, CD-ROM (11 pages).
- X. Fang, R. Shrestha, A. W. Groeger, J. Lin, and M. Jao “Simulation of Impacts of Streamflow and Climate Conditions on Amistad Reservoir”, *Journal of Contemporary Water Research and Education*, Issue 137, pp. 14-20, September 2007.
- M.S. Kim, M. Jao, A. J. Puppala, P. Chang, S. Yin, I. Pannila and J. Delphia and C. Vipulanandan “Charactering the Soft Clays in the Texas Gulf Coase Using the Texas Cone Penetrometer (TCP)” Special Geotechnical Publication, No 173, *New Peaks in Geotechnics*, ASCE, February 2007.

- C. Vipulanandan, A. J. Puppala, M. Jao, M. S. Kim, H. Vasudevan, and P. Kumar, "Correlation of Texas Cone Penetrometer Test Values and Shear Strength of Texas Soils" Final Project Report No. Texas Department of Transportation 0-4862, pp. 1-182, August 2006.
- H. Vasudevan, A. J. Puppala, M. Jao, C. Vipulanandan, and S. Yin "Texas Cone Penetrometer (TCP) Correlations for Strength Predictions of Low Plasticity Clays" Special Geotechnical Publication, No. 149, Site and Geomaterial Characterization, ASCE, pp. 40 – 47, June 2006.
- M. Jao, S. Gudavalli, N. Pulla, M. C. Wang, "Improving Geotechnical Properties of Beaumont Clay Using Fly Ash with Heating" proceedings, the 6<sup>th</sup> International Conference on Ground Improvement Techniques, Coimbra, Portugal, pp. 341-348, 2005
- A. Faisal, M. Jao, and M. C. Wang "Analysis of Strip Footing Adjacent to a Vertical Retaining Wall" proceedings, the XXII Southeastern Conference on Theoretical and Applied Mechanics, Tuskegee, Alabama, pp. 342-351, 2004
- X. Fang, M Jao, V. Zaloom, H. W. Chu, Nitin Nagrani, and James Few "Design of Confined Placement Areas in Sabine-Neches Waterway, Texas" Port 2004 Conference, ASCE, Houston, Texas, CD-ROM (10 pages)
- V. Zaloom, X. Fang, M. Jao, H. W. Chu, N. K. Nagrani, and N. Thadani, January 2003. "Design of Confined Placement Areas in Sabine-Neches Waterway Texas, for the 50-Year Dredged Material Management Plan" Lamar University, Beaumont, technical report prepared for U.S. Army Corps of Engineers, Galveston District, Galveston, Texas, pp. 1-292, December 2003.
- V. Zaloom, X. Fang, J. Lin, W. Chu, J. Lin, A. beils, M. Jao, S. R, Komirisetty, A. Rahman, A. Kulkarni, A. Faisal and T. Erdemli, "Jefferson County Highway 87 Shore Protection - Clay Sediment Characterization", Lamar University, Beaumont, technical report prepared for Jefferson County, Texas/ Pacific International Engineering, May 2003
- V. Zaloom, J. Lin, M. Jao, X. Fang, W. Chu, and S. Kamarajugadda, "Field Investigation of Effluent Quality of Placement Area along Sabine-Neches Waterway Texas" Lamar University, Beaumont, technical report prepared for U.S. Army Corps of Engineers, Galveston District, Galveston, Texas, pp. 1-20., April 2003.
- M. Faruqi and M. Jao, "A Scientific Comparison of Centrifugally Cast Fiberglass Reinforced Polymer Pipe and Bar Wrapped Concrete Cylinder Pipe Using Finite Element Analysis" The Texas Journal of Science, Vol. 54, No. 4, November 2002, pp. 363-365.
- M. Jao, M. C. Wang, H. C. Chou, and C. J. Lin, "Behavior of Interacting Parallel Strip Footings" Electronic Journal of Geotechnical Engineering, Vol. 7, 2002.
- M. Jao, H.C. Chou, M. A. Faruqi, and M. C. Wang, "Effect of Slope on Strip Footing Behaviour" Proceedings of 3<sup>rd</sup> International Conference on

Landslides, Slope Stability & the Safety of the Infra-Structures, Singapore, pp. 261-267, 2002.

- M. Jao, Y. Scott, E. Koehn, and M.C. Wang, "Mechanistic Behavior of Concrete Box Culverts under Strip Footings" Proceedings of the XXI Southeastern Conference on Theoretical and Applied Mechanics, Orlando, Florida, pp. 675-681, 2002.
- V. Zaloom, X. Fang, M. Jao, A. S. Kumar, S. D. Chorgha, S. G. Muninarayana, Y. Scott, B. Little, "Sabine-Neches Waterway Feasibility Study – Pipeline/Facilities Relocation and Removals" Lamar University, Beaumont, Prepared for U.S. Army Corps of Engineers, Galveston District, Galveston, Texas, 2002.
- M. Jao, V. Agrawal, and M. C. Wang, "Performance of Strip Footings on Slopes", Proceedings, XV International Conference on Soil Mechanics and Foundation Engineering, Istanbul, Turkey, Vol. 1, pp.697-699, 2001.
- M. Jao and M. C. Wang, "Behavior of Soft Ground Tunnel under Strip Footing" Special Geotechnical Publication, No. 102, Trend in Rock Mechanics, ASCE, 2000, pp. 78-92.
- M. Jao and M. C. Wang, "Stability of Strip Footings above Concrete-Lined Soft Ground Tunnels" Journal of Tunnelling and Underground Space Technology Vol. 13, No. 4, pp. 427-434, 1998.
- G. Azam, M. Jao, and M. C. Wang, "Cavity Effect on Stability of Strip Footing in Two Layer Soils" Journal of Geotechnical Engineering, South East Asia Geotechnical Society, Vol. 28, No. 2, December 1997, pp. 151-164.
- M. C. Wang, Y. X. Feng, and M. Jao "Stability of Geosynthetics-Reinforced Soil above Cavity", Geotextile and Geomembranes, Journal of International Geotechnical Society. No. 14, 1996, pp. 95-109.
- M. Jao, "Interaction between Strip Footings and Concrete-Lined Soft Ground Tunnels", Ph.D. Thesis, The Pennsylvania State university, University Park, Pennsylvania, 1995.
- M. C. Wang, M. Jao, Y.X. Feng, "Use of Geogrid-Reinforced Mine Spoils For Shafts Capping" The Pennsylvania State university, University Park, Pennsylvania, prepared for Bureau of Land Management, U.S. Department of Interior, Washington, D.C., 1994.
- M. C. Wang, M. Jao, and C. W. Hsieh, "Effect of Underground Cavity on Footing Interaction", Proceedings of 13<sup>th</sup> International Conference on Soil Mechanics and Foundation Engineering, Vol. 2 1994, New Delhi, India, pp. 575-578.
- M. C. Wang, J. Q. Hull, M. Jao, B. A. Dempsey, and D. A. Cornwell, "Engineering Behavior of Water Treatment Sludge", Journal of Environmental Engineering, Vol. 118, No. 6, November/December 1992, ASCE, pp. 848-864.
- M. C. Wang, J. Q. Hull, and M. Jao, "Stabilization of Water Plant Sludge for Possible Utilization as Embankment Material", Transportation Research Board, No. 1345, 1992, pp. 36-43.

- M. Jao, “A Study on Strip Footing Behavior and Interaction” M.E. Report, The Pennsylvania State university, University Park, Pennsylvania, 1991.

### **Funded Research Projects:**

- Co-PI : “Wake Wash in Sabine-Neches Waterway”, Phase \_II, Sabine-Neches Waterway Navigation District 10/01/2017-9/30/2018, \$99,742, PI: Dr. V. Zaloom
- Co-PI: “Evaluation and Remediation of Water Contaminants Originating from Dredge Waste“, CAWAQ Grant Program, Lamar University, 03/01/2016 – 05/30/2017, \$25,000, PI: Dr. T. Thuy Minh Nguyen
- Co-PI: “Wake Wash in Sabine-Neches Waterway”, Sabine-Neches Waterway Navigation District, 11/01/2015-06/30/2017, \$99,742, PI: Dr. V. Zaloom
- Co-PI: “Undergraduate Research/Creative Activity in Civil Engineering and Mechanical Engineering Using EM2 Geomodel, Presidential Faculty Fellowship in Support of Undergraduate Research/Creative Activity, 09/01/2014-08/31/2015, \$15000, PI: Dr. Qin Qian
- PI: “Effect of Biomaterials on the Behavior of Expansive Soils”, funded by Lamar Research Enhancement Grant, 09/1/12-08/31/13, \$5,000.
- Co-PI: “Evaluation of Superheavy Load Criteria for Bridges”, Texas Department of Transportation, 09/01/09-08/31/11, \$181,189/\$110,395, PI: Dr. Mark Bourland
- Co-PI: “Pavement Repair Strategies for 2R and Routine Maintenance Project”, Texas Department of Transportation, 09/01/09-08/31/10, \$135,000/\$30,000, with Dr. Mark Bourland
- PI: “Correlation of Texas Cone Penetrometer Test Values and Shear Strength of Texas Soils ”, Texas Department of Transportation, 09/01/04-08/30/06, \$25,000/\$175,000
- Co-PI: “A Combination of Thermal and Chemical Stabilization of Expansive Soils”, funded by Lamar Research Enhancement Grant, 09/1/04-08/31/05, \$5,000.
- Co-PI: “Development of a Mechanical Model to Predict Strength Parameters of Soils”, funded by Lamar Research Enhancement Grant, 09/1/04-08/31/05, \$5,000.
- Co-PI: “Comprehensive Water Quality Monitoring, Simulation, and Management Plan for Reservoirs in Rio Grande Basin”, TSUS, \$26,250, 9/1/04-8/31/05
- Co-PI: “Field Investigation of Effluent Quality of Placement Areas along Sabine-Neches Waterway”, funded by U.S. Army Corps of Engineers, 02/01/03-12/31/03, Dr. V. Zaloom (PD), \$20,000
- PI: “Jefferson County Highway 87 Shore Protection - Clay Sediment Characterization”, funded by Jefferson County, Texas/ Pacific International Engineering, 02/15/03-08/15/03, Dr. V. Zaloom (PD), \$10,000

- PI: “Performance of Shallow Foundations adjacent to Vertical Retaining Walls” funded by Lamar Research Enhancement Grant, 11/15/02-08/31/03, \$5,000.
- PI: “Sabine-Neches Waterway Feasibility Study – Pipeline/Facilities Relocation and Removals” funded by U.S. Army Corps of Engineers, \$38,771, Dr. V. Zaloom (PD), 9/1/01-8/31/02
- Co-PI: “Design of Confined Placement Areas for Sabine-Neches Waterway Dredged Spoils ” funded by U.S. Army Corps of Engineers, \$53,631, Dr. V. Zaloom (PD), 9/1/02-8/31/03
- PI: "Interaction between Shallow Foundations and Concrete Box Culverts", funded by Lamar University Research Enhancement Grant, \$5,000, 9/1/01-08/31/02 (completed).
- PI: “Chemical stabilization of Beaumont Clay”, Gill Young Investigator Award \$2,000, Gill Foundation/College of Engineering, Lamar University
- PI: "Stability of Shallow Foundations on Top of a Slope", funded by Lamar University Research Enhancement Grant, 09/01/99-8/31/00, \$5,000.

**Certification:** Registered Professional Engineer in Pennsylvania, Texas, and Virginia.