

## Curriculum vitae

### **Dr. James A. Schneider, P.E.**

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Assistant Professor

Civil and Environmental Engineering Department  
University of Wisconsin-Madison  
2212 Engineering Hall, Madison, WI 53706-1691 USA

Tel: +1 (608) 890-2662  
Fax: +1 (608) 262-5199  
Email: james@cae.wisc.edu

#### **Education**

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Ph.D. Civil Engineering, The University of Western Australia, 2007  
M.S. Civil Engineering (Geotechnical), Georgia Institute of Technology, 1999  
B.S. Civil Engineering with High Honor, Georgia Institute of Technology, 1997

#### **Qualification**

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Professional Engineer, California, USA, No. C63302

#### **Research Interests / Ongoing Research Projects**

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- Foundation solutions for renewable energy systems and transportation infrastructure
- Evaluation of strength and stiffness of soils, particularly through the use of in situ tests
- Evaluation of safety margins and optimization of construction effort

*Evaluation of the foundation movements of transportation structures* – Wisconsin Highway Research Program, 3 year, 2009-2012, field measurement and numerical modeling of foundation performance for transportation structures

*Foundation solutions for offshore wind turbines on the Great Lakes* – Graduate School of the University of Wisconsin / Fugro Atlantic, Inc., 2 year, 2009-2011

*Cone Penetrometer Comparison Testing* – Wisconsin Highway Research Program, 1.5 year, 2009-2010, field measurement and analysis of cone penetration test data in soil conditions typical of Wisconsin

#### **Teaching**

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Fall 2008 – CEE532/GLE532 Foundation Engineering  
Spring 2009 – GLE476/CEE534 Field Methods in Geologic Engineering  
Fall 2009 – CEE330 Soil Mechanics

#### **Full time consulting experience**

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- Fugro West, Inc., California, USA, Staff to Project Engineer, 2000 - 2003
- Geosyntec Consultants, Atlanta, Georgia, USA, Staff Engineer, 1999 - 2000
- Dames & Moore, Atlanta, Georgia, USA, Assistant Engineer, 1997

#### **Selected consulting projects**

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- *Port of Los Angeles Pier 400 Container Wharf Phase I and Phase II, California, USA:* Axial pile design and pile driving criteria applied to over (4000) 0.61m diameter 35+m long concrete piles
- *PEMEX, Gulf of Mexico, Mexico:* Earthquake site response, liquefaction analyses, and calculation of cyclic axial and lateral pile design factors for over 30 potential offshore platform locations
- *Maari Platform, Taranaki Basin, New Zealand:* Pile drivability studies for conductor (D=0.61m) and anchor (D=2.13m) pile installation in sands, silts, and silty clays. The influence of plugging during driving was assessed, and contingency plans (including the effects of setup) were developed.
- *Safaniya Field, Arabian Gulf, Saudi Arabia:* Peer review of axial capacity calculations for driven piles in a very dense slightly cemented siliceous/carbonate (CaCO<sub>3</sub> ≈ 20%) sands.
- *Reindeer Site, Northwest Shelf, Western Australia:* Site characterization and design of drilled and grouted piles in uncemented calcareous sands and weakly cemented calcarenite.

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- *ODP-A Platform, Turkmenistan*: Pile drivability studies for 60m to 80m long, 0.66m and 0.914m diameter conductors through layered sands, silts, clays, and silty clays.
  - *Vincent Site, Northwest Shelf, Western Australia*: Site characterization interpretive report and recommendations for geotechnical design parameters in calcareous sands and silts
  - *Cape Lambert, Western Australia, Australia*: Assessment of axial capacity and drivability of open ended wharf piles in calcarenite. Pipe piles had diameters of 0.6 and 1.2m and were to be installed by Junttan HHK9A and BSP HH14 hydraulic hammers, respectively.
  - *Kupe South Field, Taranaki Basin, New Zealand*: Offshore site investigation in soil for proposed offshore structure. Procedures involved drilling and sampling, as well as downhole piezocone testing.
  - *San Francisco International Airport, Airfield Development Program, California, USA*: Extensive overwater site investigation in soil and analysis of data for proposed hydraulic fill and pile supported structures. Investigation performed from barges using conventional offshore drilling, sampling, lab testing, and in-situ testing equipment, as well as P&S suspension logging.
  - *Jardine Water Intake Tunnel, Lake Michigan, Chicago, Illinois, USA*: Overwater field investigation from jack up for proposed 10m diameter rock tunnel and cofferdam structures. Fieldwork included vertical and angled borings to greater than 120m penetration in recent marine deposits, glacial outwash and till, and hard rock.

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### Activities and affiliations

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- Member, Deep Foundation Institute (DFI)
- Member, United States Universities Council on Geotechnical Education and Research (USUCGER)
- Member, Earthquake Engineering Research Institute (EERI)
- Chi Epsilon, Civil Eng. Honor Society, Member, Georgia Tech Chapter President, 1998
- General Report: *Characterisation of unusual and unsaturated soils*, 3<sup>rd</sup> International Conference on Site Characterization, ISC'3, Taipei, Taiwan, 1-4 April 2008.
- Presenter: *Foundation design - a comparison of oil and gas platforms with offshore wind turbines*, Marine Technology Society (MTS) Workshop, Marine Technology for Offshore Wind Power, 29-30 June 2009.
- Presenter: *Foundation design for offshore wind turbines*, UW-Madison Department of Engineering Professional Development Short Course on Wind Energy Site Design and Construction, 9-11 November 2009.
- Session Reporter: *CPT Interpretation*, 2<sup>nd</sup> International Symposium on Cone Penetration Testing, CPT'10, Huntington Beach, CA, 9-10 May 2010.
- Visiting Scholar, Cambridge University, UK, April – July 2006
- Visiting Researcher, Fugro Engineers, B.V., Leidschendam, The Netherlands, November 2004
- Review of offshore axial pile design methods in silica sands, American Petroleum Institute (API) Pile Design Committee, 2004 – 2005.
- Collaborator, UWA settlement prediction competition for shallow foundations on sand, 2006
- Reviewer for ASCE J. of Geotech. & Geoenv. Eng., Canadian Geotech. J., ASTM Geotech. Test. J., Geotech. and Geological Engineering, KSCE J. Civ. Eng., and conference proceedings.

## Publications

### Journal Papers

1. **Schneider, J.A.** 2009. Separating influences of yield stress ratio (YSR) and partial drainage on piezocone response, *Australian Geomechanics*.
2. **Schneider, J.A.**, Randolph, M.F., Mayne, P.W., and Ramsey, N. 2008. Analysis of factors influencing soil classification using normalized piezocone tip resistance and pore pressure parameters, *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 134(11), 1569-1586.
3. **Schneider, J.A.**, Xu, X., and Lehane, B.M. 2008. Database assessment of CPT based design methods for axial capacity of driven piles in siliceous sands. *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 134(9), 1227-1244.
4. Xu, X., **Schneider, J.A.**, and Lehane, B.M. 2008. Cone penetration test (CPT) methods for end-bearing assessment of open- and closed-ended driven piles in siliceous sand, *Canadian Geotechnical Journal*, 45(8), 1130-1141.
5. Lehane, B.M., **Schneider, J.A.**, and Xu, X. 2008. Design of displacement piles in siliceous sands using the CPT, *Australian Geomechanics*, 43(2), 21-40. (Update of Lehane et al. 2007, *Proc. Int. Workshop on Recent Adv. of Deep Foundations*)
6. Fahey, M., **Schneider, J.A.**, and Lehane, B.M. 2007. Self-boring pressuremeter testing in Spearwood dune sands, *Australian Geomechanics*, 42(4), 57-71.
7. **Schneider, J.A.**, Lehane, B.M., and Schnaid, F. 2007. Velocity effects on piezocone measurements in normally and overconsolidated clays, *International Journal of Physical Modelling in Geotechnics*: 7(2): 23-34.
8. Chung, S.F., Randolph, M.F., and **Schneider, J.A.** 2006. Effect of penetration rate on penetrometer resistance, *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 132(9): 1188-1196.
9. Lehane, B.M., Gaudin, C., and **Schneider, J.A.** 2005. Shaft capacity of rough model piles buried in dense sand, *Géotechnique*, 55(10):709-719.
10. **Schneider, J.A.**, Mayne, P.W., and Rix, G.J. 2001. Geotechnical site characterization in the greater Memphis area using cone penetration tests, *Engineering Geology*, 62 (1-3): 169 - 184.

### Journal Discussions

1. **Schneider, J.A.** 2009. Discussion to: Roy, D. 2008. Coupled use of cone tip resistance and small strain shear modulus to assess liquefaction potential, *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, 135(5), 701-706.
2. **Schneider, J.A.** 2007. Discussion to: Jardine, R.J., Standing, J.R., and Chow, F.C. Some observations of the effects of time on the capacity of piles driven in sand, *Géotechnique*, 57(3), 323-324.
3. **Schneider, J.A.**, Mayne, P.W., and McGillivray, A.V. 2001. Discussion to: Sand state from cone penetrometer tests: a framework considering grain crushing stress, by J.M. Konrad, *Géotechnique*, 51(7): 651 – 652.
4. Mayne, P.W., and **Schneider, J.A.** 1999. Discussion to: Analysis of cone resistance: Review of methods, by Yu, H.S., and Mitchell, J.K., *Journal of Geotechnical and Geoenvironmental Engineering*, 125 (9): 812-813.

## Conference Papers

1. **Schneider, J.A.** 2009. Uncertainty and bias in evaluation of LRFD ultimate limit state for axial loading of driven piles, *Proc. 34th Annual Conference on Deep Foundations*, accepted.
2. **Schneider, J.A.**, and Harmon, I.A. 2009. Diameter effects on driveability of open ended piles in very dense sands, *Proc. 34th Annual Conference on Deep Foundations*, accepted.
3. Boylan, N., Gaudin, C., White, D.J., Randolph, M.F., and **Schneider, J.A.** 2009. Geotechnical centrifuge modelling techniques for submarine slides, OMAE2009-79059, *Proc. ASME 28th Int. Conf. on Ocean, Offshore and Arctic Engineering*, OMAE2009, Hawaii: 8.
4. **Schneider, J.A.**, Lehane, B.M., and Gaudin, C. 2008. Centrifuge examination of pile jetting in sand. *Proc. International Press-In Association 2<sup>nd</sup> International Workshop*, New Orleans: 17-24.
5. Lehane, B.M., Doherty, J.P., and **Schneider, J.A.** 2008. Settlement prediction for footings on sand. *Proc. Deformation Characteristics of Geomaterials*, Atlanta, 133-150.
6. **Schneider, J.A.**, Randolph, M.F., Mayne, P.W., and Ramsey, N. 2008. Influence of partial consolidation during penetration on normalized soil classification by piezocone, *3<sup>rd</sup> International Conference on Site Characterization (ISC'3)*, 1159-1165.
7. **Schneider, J.A.**, Fahey, M., and Lehane, B.M. 2008. Characterisation of an unsaturated sand deposit by in situ testing, *3<sup>rd</sup> International Conference on Site Characterization (ISC'3)*, 633-638.
8. **Schneider, J.A.**, White, D.J., and Lehane, B.M. 2007. Shaft friction of driven piles in siliceous, calcareous, and micaceous sands, *Proceedings of the 6th International Conference on Site Investigation and Geotechnics*, SUT, London, 367-382.
9. Lehane, B.M., **Schneider, J.A.**, and Xu, X. 2007. CPT-based design of displacement piles in siliceous sands, *Proc. Int. Workshop on Recent Adv. of Deep Foundations*, PARI, Yokosuka, Japan, pp. 95-111.
10. **Schneider, J.A.**, White, D.J., and Kikuchi, Y. 2007. Back analysis of Tokyo port bay bridge pipe pile load tests using piezocone data, *Proc. Int. Workshop on Recent Adv. of Deep Foundations*, PARI, Yokosuka, Japan, pp. 263-273.
11. Lehane, B.M., **Schneider, J.A.**, and Xu, X. 2007. Development of the UWA-05 design method for open and closed ended driven piles in siliceous sand, *GeoDenver 2007*, ASCE, pp. 1-10.
12. **Schneider, J.A.** 2006. Impact of offshore site investigation practice on reliability of axial pile design in siliceous sands, *31<sup>st</sup> Annual Conference on Deep Foundations*, Deep Foundation Institute: 623-638.
13. **Schneider, J.A.**, and Lehane, B.M. 2006. Effect of width for square centrifuge displacement piles in sand, *International Conference on Physical Modeling in Geotechnics*, Hong Kong, Taylor & Francis: 867-873.
14. **Schneider, J.A.**, and Lehane, B.M. 2005. Correlations for shaft capacity of offshore piles in sand, *International Symposium on Frontiers in Offshore Geotechnics*, Perth, Australia, Taylor & Francis: 757 - 763.
15. Lehane, B.M., **Schneider, J.A.**, Xu, X. 2005. The UWA-05 method for prediction of axial capacity of driven piles in sand, *International Symposium on Frontiers in Offshore Geotechnics*, Perth, Australia, Taylor & Francis: 683 - 689.
16. White, D.J., **Schneider, J.A.**, and Lehane, B.M. 2005. The influence of effective area ratio on shaft friction of displacement piles in sand, *International Symposium on Frontiers in Offshore Geotechnics*, Perth, Australia, Taylor & Francis: 741 - 747.

17. Xu, X., Lehane, B., and **Schneider, J.A.** 2005. Evaluation of end-bearing capacity of open-ended piles driven in sand from CPT data, *International Symposium on Frontiers in Offshore Geotechnics*, Perth, Australia, Taylor & Francis: 725 – 731.
18. Hebel, G.L., Frost, D.J., **Schneider, J.A.**, and Lehane, B.M. 2005. Cyclic friction piezocone tests for offshore applications, *International Symposium on Frontiers in Offshore Geotechnics*, Perth, Australia, Taylor & Francis: 967 - 972.
19. Howard, R., **Schneider, J.A.**, McNeilan, T.W., and Robins, P. 2004. Pile Driving Indicator Program Results, Pier 400 Container Wharf, Port of Los Angeles, California, *Geotechnical Engineering for Transportation Projects*, ASCE GSP 126: 526 - 536.
20. **Schneider, J.A.**, McGillivray, A.V., and Mayne, P.W. 2004. Evaluation of SCPTU intra-correlations at sand sites in the Lower Mississippi River Valley, USA, *2nd International Conference on Site Characterization*, Porto, Portugal, 2: 1003-1010.
21. McNeilan, T.W., **Schneider, J.A.**, Robins, P., and Howard, R. 2004. Pier 400 Container Wharf Indicator Pile Driving Program Results, Port of Los Angeles, California, *Ports 2004: Port Development in the Changing World*, ASCE: 1-10.
22. Robins, P., N., McNeilan, T.W., **Schneider, J.A.**, and Foxworthy, J. 2003. Pier 300 Extension Using Dredged Materials from the Main Channel, Port of Los Angeles, *Coastal Structures 2003*, ASCE: 1262 – 1274.
23. **Schneider, J.A.**, Howard, R., Robins, P.N., and McNeilan, T.W., 2003. Indicator pile driving programs at the Port of Los Angeles Pier 400 container wharf, *Proceedings, 11th European Conference on Soil Mechanics and Foundation Engineering*, Prague, August: 387 - 392.
24. **Schneider, J.A.**, Peuchen, J., Mayne, P.W., and McGillivray, A.V. 2001. Piezocone profiling of residual soils, *Proceedings, International Conference on In Situ Measurements of Soil Properties and Case Histories*, Bali, Indonesia, May 21-24, 2001: 593 - 598.
25. Mayne, P.W., and **Schneider, J.A.** 2001. Evaluating Axial Drilled Shaft Response by Seismic Cone, *Foundations and Ground Improvement*, ASCE: 655 – 669.
26. **Schneider, J.A.**, and Mayne, P.W. 2000. Liquefaction Response of Soils in Mid-America Evaluated by Seismic Cone Tests, *Innovations and Applications in Geotechnical Site Characterization*, ASCE GSP 97: 1 – 16.
27. **Schneider, J.A.**, Mayne, P.W., and Rix, G.J. 2000. Ground Improvement Assessment Using SCPTu and Crosshole Data, *Innovations and Applications in Geotechnical Site Characterization*, ASCE GSP 97: 169 – 180.
28. McGillivray, A.V., Casey, T., Mayne, P.W., and **Schneider, J.A.** 2000. An Electro-Vibrocone for Site-Specific Evaluation of Soil Liquefaction Potential, *Innovations and Applications in Geotechnical Site Characterization*, ASCE GSP 97: 106-117.
29. Mayne, P.W., Brown, D., Vinson, J., **Schneider, J.A.**, and Finke, K. A. 2000. Site Characterization of Piedmont Residual Soils at the National Geotechnical Experimentation Site, Opelika, Alabama, National Geotechnical Experimentation Sites, ASCE GSP 93: 160 – 185.
30. **Schneider, J.A.**, Hoyos Jr., L., Mayne, P.W., Macari, E.J., and Rix, G.J. 1999. Field and Laboratory Measurements of Dynamic Shear Modulus of Piedmont Residual Soils, *Behavioral Characteristics of Residual Soils*, ASCE GSP 92: 12 – 25.
31. **Schneider, J.A.**, Mayne, P.W., Hendren, T.L., and Wise, C.M. 1999. Initial development of an impulse piezovibrocone for liquefaction evaluation, *Physics and Mechanics of Soil Liquefaction*, A.A. Balkema, Rotterdam: 341 - 354.

32. Mayne, P.W., Martin, G.K., and **Schneider, J.A.** 1999. Flat Dilatometer Modulus Applied to Drilled Shaft Foundations in Piedmont Residuum, *Behavioral Characteristics of Residual Soils*, ASCE GSP 92: 101 – 112.
33. Mayne, P.W., **Schneider, J.A.**, and Martin, G.K. 1999. Small- and large-strain soil properties from seismic flat dilatometer tests, *Proceedings*, Pre-failure deformation characteristics of geomaterials, Vol. 1, Torino, Italy: 419-426.
34. Wise, C.M., Mayne, P.W., and **Schneider, J.A.** 1999. Prototype piezovibrocone for evaluating soil liquefaction susceptibility, *Geotechnical Earthquake Engineering*, Vol. 2 (Proc., 2nd ICEGE, Lisbon), A.A. Balkema, Rotterdam: 537 - 542.

#### **Dissertations**

1. **Schneider, J.A.** 1999. Liquefaction response of soils in Mid America evaluated by seismic cone test, *MS Dissertation*, Georgia Institute of Technology, 273 pp.
2. **Schneider, J.A.** 2007. Analysis of piezocone data for displacement pile design, *PhD Thesis*, The University of Western Australia, 653 pp.

#### **Engineering Manuals**

1. Sabatini, P.J., Bachus, R.C., Mayne, P.W., **Schneider, J.A.** and Zettler, T.E. 2002. Manual on Evaluating Soil & Rock Properties, Geotechnical Engineering Circular No. 5, *Report No. FHWA-IF-02-034*, Federal Highway Administration, Washington, D.C., 385 pages.

#### **Technical Reports**

1. White, D.J., **Schneider, J.A.**, Gaudin, C., and Randolph, M.F. 2008. Modelling of submarine landslides and their impact on pipelines – Facility Development: Drum centrifuge modelling techniques, *UWA Report GEO 08443*, 166 pp.
2. Lehane, B.M., **Schneider, J.A.**, and Xu, X. 2005. A review of design methods for offshore driven piles in siliceous sands, *UWA Report GEO 05358*, 105 pp.
3. Lehane, B.M., **Schneider, J.A.**, and Xu, X. 2005. CPT based design of driven piles in sand for offshore structures, *UWA Report GEO 05345*, 48 pp.
4. Lehane, B.M., **Schneider, J.A.**, and Xu, X. 2005. Evaluation of design methods for displacement piles in sand, *UWA Report GEO 05341.1*, 103 pp.
5. **Schneider, J.A.**, Randolph, M.F., and Chung, S.F. 2004. Characterization of soft soils for deepwater developments: Variable rate penetration tests at Burswood site, *UWA Report GEO 03305*, 58 pp.
6. **Schneider, J.A.**, and Mayne, P.W. 1999. Liquefaction response of soils in Mid America evaluated by seismic cone test, *Report MAE-GT-3A*, Mid America Earthquake Center, 253 pp.
7. Mayne, P.W., **Schneider, J.A.**, Casey, T., Mitchell, J.K., Brandon, T., and Bonita, J. 1999. Development of a Piezovibrocone for In-Situ Evaluation of Soil Liquefaction Potential and Postcyclic Residual Undrained Strength of Silty and Sandy Soils, *Final Technical Report*, U.S. Geological Survey (USGS) Award No. 1434-HQ-97-GR-03128, 25 pp.