Auckpath Sawangsuriya

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Department of Highways
Sri Ayutthaya Rd.
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Education

Ph.D. Civil Engineering [Geotechnical Engineering] May 2006
University of Wisconsin – Madison, U.S.A.
Dissertation: *Stiffness-Suction-Moisture Relationship for Compacted Soils*
Advisor: Professors Tuncer B. Edil and Peter J. Bosscher

M.S. Civil Engineering [Geotechnical Engineering] August 2001
University of Wisconsin – Madison, U.S.A.
Dissertation: *Evaluation of the Soil Stiffness Gauge*
Advisor: Professors Tuncer B. Edil and Peter J. Bosscher

B.Eng. Civil Engineering (Honors) May 1999
Sirindhorn International Institute of Technology, Thammasat University, Thailand

Areas of Expertise

Pavement Design and Construction
Embankment and Slope Stability Analysis
Characterization of Mechanical Properties of Earthen Materials
Earthwork Quality Control and Pavement Performance Assessment
Non-destructive Evaluation for Transportation Geotechnics
Unsaturated Geotechnology
Geotechnical Instrumentation for Field Testing and Performance Monitoring

Working Experience

Civil Engineer – Expert Level 2017 - Present
Bureau of Road Research and Development
Department of Highways, Bangkok, Thailand
Job Description:

- Director of Highway Materials and Pavement Structure Group

Civil Engineer – Senior Professional Level 2015 - 2017
Bureau of Road Research and Development
Department of Highways, Bangkok, Thailand
Job Description:

- Acting Director of Highway Materials and Pavement Structure Group

Civil Engineer – Senior Professional Level 2013 – 2015

Bureau of Highway Construction 1
Department of Highways, Bangkok, Thailand
Job Description:

- Acting Project Engineer: Highway Construction Project No.304 (Minbury-Chacheongsao)

Civil Engineer – Senior Professional Level 2011 - 2013
Bureau of Road Research and Development
Department of Highways, Bangkok, Thailand
Job Description:

- Acting Director of Highway Materials and Pavement Structure Group

Civil Engineer – Professional Level 2008 - 2011
Bureau of Road Research and Development
Department of Highways, Bangkok, Thailand
Job Description:

- Pavement technology
- Transportation geotechnics

Civil Engineer – Practitioner Level 2006 - 2008
Road and Pavement Design Branch
Bureau of Materials, Analysis and Inspection
Department of Highways, Bangkok, Thailand
Job Description:

- Pavement design and analysis
- Slope stability, slope stabilization, and remediation techniques
- Foundation and retaining structure design and analysis

Research and Teaching Experience

Invited Lecturer
Kasetsart University, Bangkok, Thailand
Graduate Course Title: - *Selected Topics in Geotechnical Engineering: Unsaturated Soil Mechanics*

Asian Institute of Technology, Pathumthani, Thailand
Graduate Course Title: - *Design and Performance of Highway and Airport Pavement*

Part-time Faculty
Asian Institute of Technology, Pathumthani, Thailand
Undergraduate Course Title: - *Pavement Engineering*

King Mongkut University of Technology North Bangkok, Bangkok, Thailand
Graduate Course Title: - *Advanced Pavement Design and Maintenance*

Mahanakorn University of Technology, Bangkok, Thailand

Graduate Course Title: - *Pavement Design and Analysis*
- *Unsaturated Soil Mechanics*

Sirindhorn International Institute of Technology, Thammasat University, Thailand
Undergraduate Course Title: - *Selected Topics in Civil Engineering I: Unsaturated Geo Engineering*
- *Engineering Statics*

Kasem Bundit University, Bangkok, Thailand
Undergraduate Course Title: - *Foundation Engineering*
- *Engineering Geology*

Research Associate May 2006-August 2006
Research Assistant September 2005-May 2006
University of Wisconsin – Madison, Wisconsin, U.S.A.
Research Title: *Resilient Behavior of Unsaturated Subgrade Soils,* subcontract to the University of Minnesota sponsored by the Minnesota Department of Transportation (MnDOT)

- Characterizing the unsaturated resilient properties of four typical subgrade soils from Minnesota at different soil suctions in the range of 0 to 500 kPa.
- Developing test methods and procedures for assessing the resilient modulus of unsaturated soils.
- Determining the relationship between the resilient modulus and matric suction.
- Providing a basis to formalize the relationship of resilient modulus to matric suction.
- Preparing a state-of-the-art paper on pavement design procedure using resilient modulus extending the principles of unsaturated soil mechanics.
- Preparing the progress report to MnDOT.
- Providing a final report of the findings and assisting the University of Minnesota in developing unsaturated resistance factors for use in "mechanistic-empirical" pavement design software.

Project Assistant January 2004-January 2005
University of Wisconsin – Madison, Wisconsin, U.S.A.
Research Title: *Alternative Cover Assessment Program (ACAP),* funded by the US Environmental Protection Agency through the Superfund Innovative Technologies Evaluation Program

- Conducted saturated hydraulic conductivity and soil water characteristic curve tests on undisturbed samples of the cover soils collected from the ACAP test sites.
- Performed index properties and compaction tests on disturbed samples of the cover soils.
- Compared the hydraulic properties of the ACAP cover soils measured at the time of construction and those measured 2 to 4 years after construction.
- Evaluated how hydraulic properties of water balance cover soils change in response to pedogenesis (e.g. change in soil structure caused by weathering and biota instrusion).

- Prepared the geotechnical laboratory report describing results of laboratory tests conducted to characterize the hydraulic properties of soils being considered for final cover for a landfill.
- Prepared technical papers for the journal of geotechnical and geoenvironmental engineering.

Teaching Assistant September 2003-December 2003
University of Wisconsin – Madison, Wisconsin, U.S.A.
Course Title: *Field Methods in Geological Engineering*

- Conducted field session for graduate students, where various geotechnical in-situ tests were performed.
- Taught methods of site investigations for the rational design of foundation.
- Taught field reconnaissance and subsurface exploration (e.g. soil boring and sampling, augering, and standard penetration testing).
- Taught field instrumentation and data acquisition for monitoring meteorological conditions and time-domain reflectometry measurements
- Taught in situ methods (e.g. borehole permeability test, geophysical methods such as seismics and magnetics survey, dilatometer test, inclinometers and sondex etc.).
- Prepared lectures, graded homework and reports, and held office hours.

Teaching Assistant September 2002-December 2005
University of Wisconsin – Madison, Wisconsin, U.S.A.
Course Title: *Soil Mechanics*

- Taught substitute class lectures for faculty in undergraduate soil mechanics.
- Conducted laboratory session for undergraduate students, where various geotechnical tests were performed with class participation, including soil classification, particle size analysis, compaction, permeability, 1-D consolidation, unconfined compression, direct shear, and triaxial compression.
- Prepared lectures, graded homework and laboratory reports, and held office hours.

Research Assistant May 2000-December 2003
University of Wisconsin – Madison, Wisconsin, U.S.A.
Research Title: *Investigation of the SSG and DCP as Alternative Methods to Determine Subgrade Stability*, sponsored by the Wisconsin Department of Transportation

- Evaluated the soil stiffness gauge (SSG) and dynamic cone penetrometer (DCP) for structural design property development and earthwork quality control.
- Utilized the SSG and DCP in companion with traditional moisture-density methods such as nuclear test and sand cone test for direct and rapid in situ stiffness and strength measurements of natural earthen materials, industrial by-products, chemically stabilized soils, and other materials from thirteen construction sites around the state of Wisconsin.
- Conducted laboratory tests including pulse transmission, bender elements, resonant column, resilient modulus, triaxial compression, unconfined compression, and California bearing ratio.

- Analyzed and correlated the data obtained from the SSG, the DCP, and traditional moisture-density methods as well as compared the stiffness and strength of subbase and subgrade obtained from different laboratory tests and in situ measurements.
- Prepared the progress report to the Technical Oversight Committee of the Wisconsin Highway Research Program.

Engineering Intern May 1999
Department of Civil Engineering, Sirindhorn International Institute of Technology, Thammasat University, Pathumthani, Thailand
Project Title: *Parametric Study on Finite-Element Modeling of Composite Steel-Concrete Flyover Bridge*

- Performed the finite-element computer program called MARC.
- Simulated three-dimensional (3-D) finite-element modeling of the renovated Thai-Belgian bridge.
- Compared the finite-element analysis with the measured results.

Project Title: *Truck Loading Test on Ramkamhaeng-Rama 9 Bridge*

- Recorded the field measurement data.
- Coordinated the measurement procedure.
- Checked loading position.

Student Intern March - May 1998
Ceda Company Limited, Bangkok, Thailand

- Reviewed geotechnical laboratory report.
- Verified and analyzed the soil bearing capacity and bracing system.
- Visited the construction site.

Italian-Thai Development Public Company Limited (Elevated Toll-way Construction Site), Pathumthani, Thailand

- Reviewed structural design plans, cost estimation, technical works, and project scheduling.
- Designed the pier footing and construction formwork.
- Verified the position of driven pile foundation.
- Visited the construction site.

Selected Coursework

Engineering Properties of Soils
Foundations
Retaining Structures
Seepage and Slopes
Soil Dynamics
Advanced Highway Design
Field Methods in Geological Engineering
Unsaturated Soil Geoengineering
Introduction to Applied Geophysics
Vibration and Wave Propagation

Publications

Books/Chapters/Proceedings

Sawangsuriya, A. (2012). Chapter 7: Wave Propagation Methods for Determining Stiffness of Geomaterials, Wave Processes in Classical and New Solids, Pasquale Giovine (Ed.), ISBN: 978-953-51-0821-4, InTech.

Dechasakulsom, M., **Sawangsuriya**, **A.**, and Sukolrat, J. (2012). Sustainable Innovation Toward Green Highways, Proceedings of International Conference on Highway Engineering 2012, Bangkok, Thailand.

Jotisankasa, A., **Sawangsuriya**, **A.**, Soralump, S., and Mairiang, W. (2011). Unsaturated Soils 2011: Theory and Practice, Proceedings of the 5th Asia-Pacific Conference on Unsaturated Soils, Pattaya, Thailand.

Jamnongpipatkul, P., Taesiri, Y., Dechasakulsom, M., **Sawangsuriya**, **A.**, and Sukolrat, J. (2010). International Conference on Slope 2010: Geotechnique and Geosynthetics for Slopes, Chiang Mai, Thailand.

Invited Lectures & Presentations

Sawangsuriya, A. (2019), "Road deterioration model for Thailand pavement management system," *26th PIARC World Road Congress (Strategic Direction Session ST D: The Story Not Always Well Told, Infrastructure Preservation)*, Abu Dhabi, UAE.

Sawangsuriya, A. (2019), "Investigation of structural capacity and performance of Department of Highways road pavement," *6th Thai Geotechnical Conference 2019*, The Engineering Institute of Thailand, Bangkok, Thailand.

Sawangsuriya, A. (2017), "Implementation of natural rubber modified asphalt concrete in Thailand: a case study from the Department of Highways research project," *International Seminar on Natural Rubber in Roads*, Melaka, Malaysia.

Sawangsuriya, A. (2016), "Some aspects of cement content for stabilized pavement materials," *3rd Thai Geotechnical Conference (Next Step & Beyond: Towards Excellence in Geotechnical Profession)*, The Engineering Institute of Thailand, Bangkok, Thailand.

Sawangsuriya, A. (2015), "Soil moisture and strength index for earthwork construction quality control," *2nd Thai Geotechnical Conference: Geotechnical Engineering-the Region's Future*, The Engineering Institute of Thailand, Bangkok, Thailand.

Sawangsuriya, A. (2015), "Soil moisture and DCP measurements for construction quality control," *Transportation Research Board 94th Annual Meeting*, Washington, D.C.

Sawangsuriya, A. (2014), "Pavement structural design and rehabilitation of highway no.1: Tak - Kampangphet," *National Exhibition and Conference of Geotechnical Engineering Society of Thailand (GTC 2014)*, The Engineering Institute of Thailand, Bangkok, Thailand.

Sawangsuriya, A. (2012), "Slope stability and erosion control of highway embankment in Northern Thailand," *1st International UW-Madison Geological and Geotechnical Engineering Conference and Alumni Reunion*, University of Wisconsin – Madison, WI.

Refereed Journal Publications

Barus, R. M. N., Jotisankasa, A., Chaiprakaikeow, S., Nontananandh, S., Inazumi, S., and **Sawangsuriya, A.** (2020), "Effects of total suction during curing on small-strain modulus of cement-treated silty sand," *Geotechnical and Geological Engineering*. (Accepted for Publication)

Tassiri, S., Kanitpong, K., and **Sawangsuriya, A.** (2020), "Effect of additives on performance properties of warm mix asphalt with reclaimed asphalt pavement," *International Journal of Pavement Research and Technology*. (Accepted for Publication)

Brahmajaree, N., Kanitpong, K., and **Sawangsuriya, A.** (2020), "Investigation on internal structural properties of asphalt mixture subjected to loading using image analysis," *International Journal of Pavement Engineering*, DOI:10.1080/10298436.2020.1735635

Barus, R. M. N., Jotisankasa, A., Chaiprakaikeow, S., and **Sawangsuriya, A.** (2019), "Laboratory and field evaluation of modulus-suction-moisture relationship for a silty sand subgrade," *Transportation Geotechnics*, Vol. 19, pp. 126-134.

Jotisankasa, A., Mahannopkul, K., and **Sawangsuriya, A.** (2015), "Slope stability and pore-water pressure regime in response to rainfall: a case study of granitic fill slope in northern Thailand," *Geotechnical Engineering Journal of SEAGC & AGSSEA*, Vol. 46, No. 1, pp. 45-54.

Sunitsakul, J, Sawatparnich, A, and **Sawangsuriya, A.** (2012), "Prediction of unconfined compressive strength of soil-cement at 7 days," *Geotechnical and Geological Engineering*, Vol. 30, No. 1, pp. 263-268.

Sawangsuriya, A., Edil, T. B., and Benson, C. H. (2009), "Effect of suction on resilient modulus of compacted fine-grained subgrade soils," *Transportation Research Record 2101*, TRB, National Research Council, Washington, D.C., pp. 82-87.

Sawangsuriya, A., Edil, T. B., and Bosscher, P. J. (2009), "Modulus-suction-moisture relationship for compacted soils in postcompaction state," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 135, No. 10, pp. 1390-1403.

Sawangsuriya, A., Edil, T. B., and Bosscher, P. J. (2008), "Modulus-suction-moisture relationship for compacted soils," *Canadian Geotechnical Journal*, Vol. 45, No. 7, pp. 973-983.

Sawangsuriya, A., Fall, M., and Fratta, D. (2008), "Wave-based techniques for evaluating elastic modulus and Poisson's ratio of laboratory compacted lateritic soils," *Geotechnical and Geological Engineering*, Vol. 26, No. 5, pp. 567-578.

Fall, M., **Sawangsuriya, A.**, Benson, C. H., Edil, T. B., and Bosscher, P. J. (2008), "On the investigations of resilient modulus of residual tropical gravel lateritic soils from Senegal (West Africa)," *Geotechnical and Geological Engineering*, Vol. 26, No. 1, pp. 13-35.

Benson, C. H., **Sawangsuriya, A.**, Trzebiatowski, B., and Albright, W. H. (2007), "Postconstruction changes in the hydraulic properties of water balance cover soils," *Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 133, No. 4, pp. 349-359.

Sawangsuriya, A. and Fratta, D. (2006), "Discussion on 'correlations between P-wave velocity and Atterberg limits of cohesive soils' by M. Fener, S. Kahraman, Y. Bay, and O. Gunaydin," *Canadian Geotechnical Journal*, Vol. 43, No. 6, pp. 653-655.

Sawangsuriya, A. (2006), "Stiffness-suction-moisture relationship of compacted soils," *Geotechnical News*, Vol. 24, No. 2, pp. 76.

Sawangsuriya, A., Bosscher, P. J., and Edil, T. B. (2006), "Application of soil stiffness gauge in assessing small-strain stiffness of sand with different fabrics and densities," *Geotechnical Testing Journal*, ASTM, Vol. 29, No. 3, pp. 207-216.

Sawangsuriya, A. and Edil, T. B. (2005), "Evaluating stiffness and strength of pavement materials," *Proceedings of the Institution of Civil Engineers-Geotechnical Engineering*, Vol. 158, No. 4, pp. 217-230.

Sawangsuriya, A., Edil, T. B., and Bosscher, P. J. (2003), "Relationship between soil stiffness gauge modulus and other test moduli for granular soils," *Transportation Research Record 1849*, TRB, National Research Council, Washington, D.C., pp. 3-10.

Sawangsuriya, A., Bosscher, P. J., and Edil T. B. (2002), "Laboratory evaluation of the soil stiffness gauge," *Transportation Research Record 1808*, TRB, National Research Council, Washington, D.C., pp. 30-37.

National Journal Papers

Sawangsuriya, A., Imjai, T., and Malaikrisanachalee, S. (2021), "Structural responses of flexible pavement subjected to different axle group loads," *Walailak Journal of Science and Technology* (Accepted for Publication in Vol. 18, 2021)

Fungladda, N., Malaikrisanachalee, S., and **Sawangsuriya, A.** (2020), "A long-term performance monitoring of asphalt pavement by rutting measurement and embedded instrumentation: a case study of Sapphaya district, Chainat province," *Engineering Journal of Research and Development* (Submitted for Publication)

Sawangsuriya, A., Sirirattanachat, T., Taworn, D., and Yuayong, S. (2020), "Application of falling weight deflectometer to assess road structural condition for Thailand pavement management system," *Engineering Journal of Research and Development*, Vol. 31, No. 3.

Sawangsuriya, A., Sirirattanachat, T., and Sukolrat, J. (2018), "Study of evaluation of UCS prediction equation of cement stabilized materials," *Kasetsart Engineering Journal*, Vol. 31, No. 103, pp. 67-78 (in Thai with English abstract).

Sawangsuriya, A., Sirisak, S., and Soranakom, C. (2016), "Evaluation of Superpave mix design in Thailand," *Kasem Bundit Engineering Journal*, Vol. 6, No. 1, pp. 134-156 (in Thai with English abstract).

Noikon, N., Sramoon, W., Wachiraporn, S., **Sawangsuriya, A.**, and Horwanotayan, S. (2013), "Relationship of parameter for stiffness and CBR test of pavement materials in test box," *Engineering Transactions: A Research Publication of Mahanakorn University of Technology*, Vol. 16, No. 2(35), pp.117-127 (in Thai with English abstract).

Sawangsuriya, A. and Pueaktong, T. (2012), "Assessment of structural integrity and service life of asphalt pavement after construction," *Kasem Bundit Engineering Journal*, Vol. 2, No. 2, pp. 1-17 (in Thai with English abstract).

Paotong, P., Sunitsakul, J., **Sawangsuriya, A.**, and Sodwong, P. (2011), "Parametric study on the strength properties of laboratory compacted predominately granular materials," *Kasetsart Engineering Journal*, Vol. 24, No. 76, pp. 1-12 (in Thai with English abstract).

Po-Udom, A., Sodwong, P., Sunitsakul, J., and **Sawangsuriya, A.** (2010), "Strength assessment of laboratory compacted and reclaimed asphalt pavement stabilized with Portland cement using a dynamic cone penetrometer," *Kasetsart Engineering Journal*, Vol. 23, No. 74, pp. 87-96 (in Thai with English abstract).

Sawangsuriya, A., Jotisankasa, A., and Jongwatthana, C. (2009), "Erosion and sediment control for highway slopes," *Civil Engineering Magazine*, Vol. 21, No. 6, pp. 68-79 (in Thai).

Sawangsuriya, A., Sramoon, W., and Wachiraporn, S. (2009), "Innovative tools for highway construction quality control," *Engineering Journal of Research and Development*, Vol. 20, No. 3, pp. 36–42.

Chaisomphob, T., **Sawangsuriya, A.**, Denpongpan, T., and Lertsima, C. (2001), "Parametric study on finite element modeling of composite steel-concrete multi-girder bridges," *Songklanakarin Journal of Science and Technology*, Vol. 23, No. 1, pp. 89-101.

International Conference Papers & Presentations

Sawangsuriya, A., Jotisankasa, A., and Malaikrisanachalee, S. (2021), "Field monitoring of flexible and rigid pavement responses in Thailand," *4th International Conference on Transportation Geotechnics*, Chicago, Illinois, USA (Accepted for Publication)

Sawatparnich, A. and **Sawangsuriya, A.** (2019), "Deflection measurements for pavement structural condition evaluation," *IRF Global R2T Conference and Exhibition*, Las Vegas, Nevada, USA., pp. 116-124.

Premathne, P. K. and **Sawangsuriya, A.** (2019), "Prediction of unconfined compressive strength of cement stabilized pavement materials," *Proceedings of the 11th International Conference on Road and Airfield Pavement Technology 2019*, Kuala Lumpur, Malaysia.

Sawangsuriya, A., Imjai, T., and Malaikrisanachalee, S. (2019), "Analysis of flexible pavement structural responses under different types of axle group load," *2nd International Symposium on Construction Innovation Research & PhD Symposium*, Nakorn Si Thammarat, Thailand.

Sawangsuriya, A., Yindeesuk, S., Kanitpong, K., and Sudajan, H. (2019), "Analysis of flexible pavement structural responses under the falling weight deflectometer," *13th Australia New Zealand Conference on Geomechanics*, Perth, Western Australia, pp. 1009-1013.

Wachiraporn, S., **Sawangsuriya, A.**, and Sramoon, W. (2018), "Effect of boundary conditions on Dynamic Cone Penetrometer test," *Proceedings of the 3rd World Congress on Civil, Structure, and Environmental Engineering (CSEE'18)*, Budapest, Hungary.

Wachiraporn, S., **Sawangsuriya, A.**, and Sramoon, W. (2017), "Correlations between DCP penetration index and properties of pavement layer materials," *Proceedings of the 4th International Conference CIGOS 2017*, Ho Chi Minh City, Vietnam.

Sawangsuriya, A. (2017), "Performance-based in situ tests for compaction quality control of pavement layers," *Proceedings of 2017 MAIREINFRA*, Seoul, South Korea.

Jitareekul, P., **Sawangsuriya, A.**, and Singhatiraj, P. (2017), "Integration of pavement layer evaluation using LWD for road safety control," *Transportation Geotechnics and Geoecology (TGG 2017)*, Procedia Engineering, Vol. 189, Saint Petersburg, Russia, pp. 111-117.

Sawangsuriya, A., Jitareekul, P., Taesiri, Y., Sirisak, S., and Lawanwisut, W. (2017), "Implementation of modulus-based quality control testing for pavement construction in Thailand," *10th International Conference on the Bearing Capacity of Roads, Railways and Airfields*, Athens, Greece, pp. 807-811.

Sawangsuriya, A. (2017), "Highway rehabilitation project for sustainable environment development: a case study of national highway route no.1, Tak-Kampangphet, Thailand," *15th REAAA Conference 2017 & IRF Global Road Summit*, Bali, Indonesia, pp. 256-263.

Sawangsuriya, A., Wachiraporn, S., Sirisak, S., and Lawanwisut, W. (2016), "Proposed performance criteria for earthwork construction quality control," *Proceedings of the 5th International Conference on Geotechnical and Geophysical Site Characterisation* (ISSMGE TC-102 - ISC'5), Gold Coast, Queensland, Australia, pp. 717-722.

Sawangsuriya, A. and Edil, T. B. (2016), "Evaluation of soil stiffness and strength for quality control of compacted earthwork," *International Journal of Environment, Chemical, Ecological, Geological and Geophysical Engineering*, WASET, Vol. 10, No. 2, Paris, France, pp. 95-99.

Sawangsuriya, A., Wachiraporn, S., and Sramoon, W. (2015), "Soil moisture and strength index for earthwork construction quality control," *International Symposium on Geohazards and Geomechanics*, ISGG 2015, Warwick, UK.

Sawangsuriya, A., Jotisankasa, A., and Anujorn P. (2014), "Application of geocomposite reinforcement for repairing A 15m high road embankment slope failure in northern Thailand," *10th International Conference on Geosynthetics*, Berlin, Germany.

Jotisankasa, A., Mahannopkul, K., and **Sawangsuriya, A.** (2014), "Evaluating slope stability with respect to pore-water pressure and suction variation with rainfall: a case study of fill granitic slope in northern Thailand," *Proceedings of the 6th International Conference on Unsaturated Soils*, UNSAT 2014, Sydney, Australia, pp. 1235-1240.

Benson, C., Chiang, I., Chalermyanont, T., and **Sawangsuriya, A.** (2014), "Estimating van Genuchten parameters α and n for clean sands from particle size distribution data," *From Soil Behavior Fundamentals to Innovations in Geotechnical Engineering*: *Honoring Roy E. Olson*, ASCE, Geotechnical Special Publication, No. 233, pp. 410-427.

Sawangsuriya, A., Krabuanrat, U., Sunitsakul, J., and Sramoon, W. (2013), "Effect of lateral confinement on California Bearing Ratio (CBR) test," *Proceedings of the 18th Southeast Asian Geotechnical Conference*, Singapore, pp. 978-981.

Wachiraporn, S., **Sawangsuriya, A.**, and Sramoon, W. (2013), "Mechanistic based quality control during highway construction," *Proceedings of the 18th Southeast Asian Geotechnical Conference*, Singapore, pp. 605–610.

Dechasakulsom, M., **Sawangsuriya, A.**, Brahmajaree, N., and Issariyanukula, A. (2013), "Using geosynthetics for rutting control on highway number 11 in Thailand," *International Symposium on Design and Practice of Geosynthetic-Reinforced Soil Structures and Joint Sessions with 26th Italian National Conference on Geosynthetics*, Bologna, Italy, pp. 525-532.

Imjai, T., **Sawangsuriya, A.**, and Dechasakulsom, M. (2013), "Effectiveness of geosynthetic-reinforced flexible pavements: full-scale testing and FE analysis," *International Symposium on Design and Practice of Geosynthetic-Reinforced Soil Structures and Joint Sessions with 26th Italian National Conference on Geosynthetics*, Bologna, Italy, pp. 359-368.

Sawangsuriya, A., Jotisankasa, A. Sukolrat, J., Dechasakulsom, M., Mahatumrongchai, V., Milindalekha, P., and Anuvechsirikiat, S. (2013), "Comparison of erosion susceptibility and

slope stability of repaired highway embankment," *Geo-Congress 2013*, Geotechnical Special Publication No. 231, San Diego, California, USA, pp. 1912-1921.

Sawangsuriya, A., Jotisankasa, A., and Anuvechsirikiat, S. (2012), "Classification of shrinkage and swelling potential of a subgrade soil in central Thailand," *Proceedings of the 2nd European Conference on Unsaturated Soils*, E-UNSAT 2012, Napoli, Italy, pp. 325-331.

Jotisankasa, A., **Sawangsuriya, A.,** Booncharoenpanich, P., and Soralump, S. (2012), "Influence of kaolin mixture on unsaturated shear strength of decomposed granitic silty sand," *Proceedings of the 2nd European Conference on Unsaturated Soils*, E-UNSAT 2012, Napoli, Italy, pp.385-390.

Sawangsuriya, A., Ketkaew, C., and Sramoon, W. (2012), "Laboratory Evaluation of the Soil Density Gauge (SDG)," *Geo-Congress 2012*, Geotechnical Special Publication No. 225, Oakland, California, USA, pp. 2707-2715.

Dechasakulsom, M., Sukolrat, J., and **Sawangsuriya, A.** (2012), "Behavior of a Trial Embankment with Reinforced Steep Slope and Mechanically Stabilized Earth Wall II: Field Monitoring," *Geo-Congress 2012*, Geotechnical Special Publication No. 225, Oakland, California, USA, pp. 2580-2589.

Sawangsuriya, A., Jotisankasa, A., Vadhanabhuti, B., and Lousuphap, K. (2011), "Identification of potentially expansive soils causing longitudinal cracks along pavement shoulder in central Thailand," *Proceedings of the 5th Asian-Pacific Conference on Unsaturated Soils*, Pattaya, Thailand, pp. 693-698.

Jotisankasa, A., Vadhanabhuti, B., Lousuphap, K., and **Sawangsuriya, A.** (2011), "Mechanisms of longitudinal cracks along pavement shoulder in central Thailand," *Proceedings of the 5th Asian-Pacific Conference on Unsaturated Soils*, Pattaya, Thailand, pp. 699-705.

Taesiri, Y. and **Sawangsuriya, A.** (2011), "An overview of recent development of rut resistant asphalt pavements in Thailand," *Proceedings of the 7th International Conference on Road and Airfield Pavement Technology 2011*, Bangkok, Thailand, pp. 960-970.

Dechasakulsom, M., Sukolrat, J., and **Sawangsuriya, A.** (2011), "Behavior of a Trial Embankment with Reinforced Steep Slope and Mechanically Stabilized Earth Wall: A Numerical Analysis," *Geo-Frontiers 2011*, Geotechnical Special Publication No. 211, Dallas, Texas, USA, pp. 3217-3226.

Kaewdee, S., Kanitpong, K., and **Sawangsuriya, A.** (2011), "Determination of truck factor from WIM data in Thailand," *Proceedings of the 9th International Conference of Eastern Asia Society for Transportation Studies*, Vol. 8, Jeju, South Korea, pp. 250-266.

Wachiraporn, S., **Sawangsuriya, A.**, Sunitsakul, J., and Sramoon, W. (2010), "Stiffness and strength based in-place evaluation of compacted unbound materials," *Proceedings of*

Sessions of GeoShanghai 2010, Geotechnical Special Publication No. 203, Shanghai, China, pp. 347-354.

Sawangsuriya, A., Benson, C. H., and Wang, X. (2009), "Issues for calibration of thermal dissipation sensors for measuring matric suction," *Proceedings of the 4th Asian-Pacific Conference on Unsaturated Soils*, Newcastle, Australia, pp. 209-214.

Taesiri, Y., **Sawangsuriya, A.**, Wachiraporn, S., and Sramoon, W. (2009), "Assessment of in-situ tests for stiffness and strength characteristic of pavement materials," *13th REAAA Conference Korea 2009*, Icheon, South Korea.

Jamnongpipatkul, P., Dechasakulsom, M., Sukolrat, J., and **Sawangsuriya, A.** (2008), "Slope management in Thailand: a case study of reinforced slope from highway route no.1095," *International Conference on Slopes*, Kuala Lumpur, Malaysia, pp. 113-123.

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Sawangsuriya, A. (2012), "An investigation of warm mix asphalt test section on highway no.1: Nakornchum – Wangchao," *International Conference on Highway Engineering 2012*, Bangkok, Thailand, pp.145-154 (in Thai with English abstract).

Noikon, N., Horwanotayan, S., Sramoon, W., Wachiraporn, S., and **Sawangsuriya, A.** (2011), "Strength testing for pavement materials of highway construction in test box," *The 16th National Convention on Civil Engineering*, Pattaya, Thailand (in Thai with English abstract).

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Kaewdee, S., **Sawangsuriya, A.**, Kanitpong, K., and Leemingsawad, S. (2009), "Determination of truck factor from WIM data in Thailand," *The 6th National Transport Conference*, Phitsanulok, Thailand.

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Sawangsuriya, A. (2008), "Effect of suction and moisture change on engineering properties of compacted soils," *The 13th National Convention on Civil Engineering*, Chonburi, Thailand (in Thai with English abstract).

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Gupta, S., Ranaivoson, A., Edil, T. B., Benson, C. H., and **Sawangsuriya, A.** (2007), *Pavement design using unsaturated soil technology*, Report No. MN/RC-2007-11, Minnesota Department of Transportation, MN.

Sawangsuriya, A. (2006), *Stiffness-suction-moisture relationship for compacted soils*, Ph.D. Thesis, The University of Wisconsin-Madison, Madison, WI.

Edil T. B. and **Sawangsuriya, A.** (2005), *Investigation of the DCP and SSG as alternative methods to determine subgrade stability*, Report No. 0092-01-05, Wisconsin Department of Transportation, WI.

Sawangsuriya, A. (2001), *Evaluation of the soil stiffness gauge*, M.S. Thesis, The University of Wisconsin-Madison, Madison, WI.

Honors and Awards

Katahira Award for Outstanding Technical Paper Relating to the Road Industry, the 15th REAAA Conference, 2017

Norman/Croes Medal Nomination by the Unsaturated Soils Committee of the Geo-Institute of ASCE, 2011

Practice-Ready Paper Award Nomination for Best Paper in Design and Construction of Transportation Facilities, the Transportation Research Board (TRB) 89th Annual Meeting, 2010

K. B. Woods Award Nomination for Best Paper of the Geology and Properties of Earth Materials Section, the Transportation Research Board (TRB) 88th Annual Meeting, 2009

University of Wisconsin Thailand Alumni Association Scholarship, 2006

Second Place, The 2006 GeoCongress Conference Student Competition, "Information Mining and Geotechnical Site Characterization Design", Atlanta, 2006

Norman H. Severson Geotechnical Engineering Award, University of Wisconsin-Madison, 2005

Vilas Fellowship Travel Award, University of Wisconsin-Madison, 2004

Royal Thai Government Scholarship, 1999-2005

Second Class Honors, B.Eng., Sirindhorn International Institute of Technology, Thammasat University, 1999

Professional Affiliation and Memberships

Transportation Geotechnics, Elsevier
  Reviewer: Transportation Geotechnics Journal
Japan Society of Civil Engineers (JSCE)
  Reviewer: Soils and Foundations
Geotechnical and Geological Engineering, Springer Netherlands
  Reviewer: Geotechnical and Geological Engineering
American Society of Civil Engineers (ASCE)
  Reviewer: Journal of Geotechnical and Geoenvironmental Engineering
American Society for Testing and Materials (ASTM)

Reviewer: Geotechnical Testing Journal
Kasem Bundit University
Reviewer: Kasem Bundit Engineering Journal
Walailak University
Reviewer: Walailak Journal of Science and Technology
Transportation Research Board (TRB)
Reviewer & Member AFP60: Committee on Engineering Behavior of Unsaturated Soil
Eastern Asia Society of Transportation Studies (EASTS)
Reviewer: Proceedings of the Eastern Asia Society for Transportation Studies, 2007 and 2010
Engineering Institute of Thailand (EIT)
Roads Association of Thailand (RATh)
Wisconsin Alumni Association (WAA), University of Wisconsin-Madison

Continuing Education

Completed the comprehensive and certified training, "Safer Roads by Design™: Back Spot Solutions and Road Safety Audits" by the International Road Federation (IRF Global), Alexandria, Virginia, USA, December 2018

Completed the technical training, "The Use of the SuperPave Gyratory Compactor (SGC) to Measure Mechanical Stability of Asphalt Mixtures" by the Modified Asphalt Research Center, Department of Civil and Environmental Engineering, University of Wisconsin – Madison, April 2013

Completed the short course, "Understanding and Using Geophysical Methods for Characterizing Engineering and Environmental Sites" by the Department of Engineering Professional Development, College of Engineering, University of Wisconsin – Madison, May 2003

Completed the short course, "Foundation Design" by the Department of Engineering Professional Development, College of Engineering, University of Wisconsin – Madison, March 2002

Graduate Student Supervised

Ph.D. Students

Wachiraporn, S., Dissertation Topic: *Strength Based Quality Control for Thailand Highway Construction*, expected 2019, co-advised with W. Sramoon, Mahanakorn University of Technology

M.S. Students

Ketkaew, C., Thesis Topic: *Evaluation of Soil Density Gauge*, 2012, co-advised with T. Rongviriyapanich, King Mongkut University of Technology North Bangkok

Kaewbuadee, I., Thesis Topic: *Properties of Crushed Rock Dust for Highway Embankment*, 2012, co-advised with T. Rongviriyapanich, King Mongkut University of Technology North Bangkok

Kaewdee, S., Thesis Topic: *Analysis of Traffic Loading Characteristics for Mechanistic-Empirical Pavement Design in Thailand*, 2009, co-advised with K. Kanitpong, Asian Institute of Technology

Wachiraporn, S., Thesis Topic: *Engineering Property-Based Compaction Control for Highway Construction*, 2008, co-advised with W. Sramoon, Mahanakorn University of Technology