

## Biographical Data

Institute of Engineering,  
Suranaree University of Technology  
111 University Avenue, Muang Distric,  
Nakhon Ratchasima 30000  
Tel: 0 4422 4221 FAX: 0 4422 4220



avirut@sut.ac.th

### Dr. Avirut Chinkulkijniwat

Date of Birth: 25 October 1973

Passport No. OF1114070

#### Education and Competence:

- 1996 B. Eng (Civil Engineering), Khon Kaen University.
- 1998 M. Eng. (Geotechnical Engineering), AIT.
- 2005 Ph.D. (Civil Engineering), Graz University of Technology (TUG)

#### Work Experiences:

- 1998 -2002 Lecturer, School of Civil Engineering, Suranaree University of Technology
- 2002 Member in investigatory building settlement committee, Suranaree University of Technology
- 2002 – 2005 Research assistant, Institute for Soil Mechanics and Foundation Engineering, Graz University of Technology.
- 2005 – 2007 Lecturer, School of Civil Engineering, Suranaree University of Technology.
- 2006 - 2011 Assistant Professor, School of Civil Engineering, Suranaree University of Technology
- 2011 - Present Associate Professor, School of Civil Engineering, Suranaree University of Technology
- 2012 – Present Board member, IGS Thailand chapter
- 2013 – Present Board member, Institute of Engineering Thailand, Northeast Branch2
- 2014 Distinguish researcher at Université des Mascareignes
- 2016 – Present Chair, Center of Excellent in Civil Engineering
- 2017 – 2020 TRF Research Scholar
- 2018-Present Editor board member: Soils and Foundations

### Trainings and Short Courses:

2003	TOUGH2 Training course: Lawrence Berkeley National Laboratory
2005	Short course on displacement monitoring in tunnels: Institut für Felsmechanik und Tunnelbau, Technische Universität Graz
2012	Young Leadership program: Suranaree University of Technology
2019	Energy geostructures: analysis and design, EPFL, Lausanne, Switzerland

### Recognitions and Prestige:

1996	Second Class Honor, Khon Kaen University
2002-2005	Scholarship, Asian Institute of Technology
2002-2005	Scholarship award technology grant Southeast Asia (Doctoral Program) from Austrian Council for Research and Technology Development Austrian
2004	Best Poster Award ITA-AITES 2004: World Tunnel Congress
2011	18 <sup>th</sup> Toray Science and Technology Research Grant
2013	Best paper award: 17 <sup>th</sup> National Convention on Civil Engineering „Yield surface for unsaturated soil on suction – net stress plane”
2015	Best paper award: Geomech 2015 “Influence of nonwoven geotextile on the hydraulic response of mechanical stabilized earth wall”

### Int. Journals indexed by ISI

- 1) Yubonchit, S., **\*Chinkulkijniwat, A.**, Horpibulsuk, S. Closure to "Influence factors involving rainfall-induced shallow slope failure: Numerical study" by Somjai Yubonchit, Avirut Chinkulkijniwat, Suksun Horpibulsuk, Chatchai Jothityangkoon, Arul Arulrajah, and Apichat Suddeepong (2018) International Journal of Geomechanics, 18 (4), art. no. 07018004, DOI: 10.1061/(ASCE)GM.1943-5622.0000865
- 2) Bui Van, D., **\*Chinkulkijniwat, A.**, Horpibulsuk, S., Yubonchit, S., Limrat, I., Arulrajah, A., Jothityangkoon, C. Steady flow in mechanically stabilised earth walls using marginal soils with geocomposites (2017) Geosynthetics International, 24 (6), pp. 590-606. DOI: 10.1680/jgein.17.00026
- 3) Siriphun, S., Horpibulsuk, S., Chotisakul, S., Suddeepong, A., **Chinkulkijniwat, A.**, Arulrajah, A. Effect of cumulative traffic and statistical predictive modelling of field skid resistance (2017) Road

Materials and Pavement Design, pp. 1-14. Article in Press. DOI: 10.1080/14680629.2017.1385511

- 4) Arulrajah, A., Kua, T.-A., Horpibulsuk, S., Mirzababaei, M., **Chinkulkijniwat, A.** Recycled glass as a supplementary filler material in spent coffee grounds geopolymers (2017) Construction and Building Materials, 151, pp. 18-27. DOI: 10.1016/j.conbuildmat.2017.06.050
- 5) Yubonchit, S., **\*Chinkulkijniwat, A.**, Horpibulsuk, S., Jothityangkoon, C., Arulrajah, A., Suddeepong, A. (2016) "Influence factors involving rainfall-induced shallow slope failure: A numerical study", International Journal of Geomechanics (Accepted for publication on 20 October 2015) (SCI, SCOPUS) (IF2015 = 1.387).
- 6) **\*Chinkulkijniwat, A.**, Horpibulsuk, S., Bui Van, D., Udomchai, A., Goodary, R., Arulrajah, A. (2016), "Influential factors affecting drainage design considerations for mechanical stabilized earth walls using geocomposites", Geosynthetics International (Accepted for publication) (SCI, SCOPUS) (IF2015 = 2.006).
- 7) Horpibulsuk, S., Udomchai, A., Joongklang, A., **\*Chinkulkijniwat, A.**, Mavong, N., Suddeepong, A. and Arulrajah, A. (2016), "Pullout resistance mechanism of bearing reinforcement embedded in residual clayey soils", Geosynthetics International (Accepted for publication on 29 September 2016) (SCI, SCOPUS) (IF2015 = 2.006).
- 8) **\*Chinkulkijniwat, A.**, Yubonchit, S., Horpibulsuk, S., Jothityangkoon, C., Jeeptaku, C. and Arulrajah, A. (2016), "Hydrological responses and stability analysis of shallow slopes with cohesionless soil subjected to continuous rainfall", Canadian Geotechnical Journal, doi: 10.1139/cgj-2016-0143 (SCI, SCOPUS) (IF2015 = 1.877).
- 9) Maghool, F., Arulrajah, A., Du, Y.J., Horpibulsuk, S., and **Chinkulkijniwat, A.** (2016), "Environmental impact of utilizing waste steel slag aggregates as recycled road construction materials", Clean Technologies and Environmental Policy, doi: 10.1007/s10098-016-1289-6 (SCI, SCOPUS) (IF2015 = 1.934).
- 10) Mohammadinia, A., Arulrajah, A., Horpibulsuk, S. and **Chinkulkijniwat, A.** (2016), "Effect of fly ash on geotechnical properties of crushed brick and reclaimed asphalt pavement for base/subbase application", Journal of Hazardous Materials, doi: 10.1016/j.hazmat.2016.09.039 (SCI, SCOPUS) (IF2015 = 4.836).
- 11) Hoy, M., Horpibulsuk, S., Rachan, R., **Chinkulkijniwat, A.**, and Arulrajah, A. (2016), "Recycled asphalt pavement-fly ash geopolymers as a sustainable pavement base material: Strength and toxic investigations", Science of the Total Environment, Vol.573, pp.19-26. (SCI, SCOPUS) (IF2015 = 3.976).

- 12) Suksiripattanapong, C., Horpibulsuk, S., **Chinkulkijniwat, A.**, Chai, J.C., Shen, S.L. and Arulrajah, A. (2016), "Parametric study on performance of bearing reinforcement earth (BRE) wall", *KSCE Journal of Civil Engineering* (Tentatively accepted for publication) (SCI, SCOPUS) (IF2014 = 0.484).
- 13) Phummiphan, I., Horpibulsuk, S., Sukmak, P., **Chinkulkijniwat, A.**, Arulrajah, A., and Shen, S.L. (2016), "Stabilization of marginal lateritic soil using high calcium fly ash based geopolymer", *Road Materials and Pavement Design* (Accepted for publication on 3 December 2015) (SCI, SCOPUS) (IF2014 = 1.188).
- 14) Bo, M.W., Arulrajah, A., Horpibulsuk, S., **Chinkulkijniwat, A.**, and Leong, M. (2015), "Laboratory measurements of factors affecting discharge capacity of prefabricated vertical drain materials", *Soils and Foundations* Vol.56, No.1 (Accepted for publication on 6 October 2015) (SCI, SCOPUS) (IF2012 = 0.413).
- 15) **\*Chinkulkijniwat, A.**, Horpibulsuk, S., Yubonchit, S., Rakkob, T., Goodary, R. and Arulrajah, A. (2015), "Laboratory approach for faster determination of the loading-collapse yield curve of compacted soils", *Journal of Materials in Civil Engineering*, pp.04015148(1-8). (SCI, SCOPUS) (IF2014 = 1.296).
- 16) Sukmak, K., Sukmak, P., Horpibulsuk, S., **Chinkulkijniwat, A.**, Arulrajah, A. and Shen, S.L. (2015). "Pullout resistance of bearing reinforcement embedded in marginal lateritic soil at molding water contents", *Geotextiles and Geomembranes*, doi:10.1016/j.geotexmem.2015.07.016 (SCI, SCOPUS) (IF2014 = 2.376).
- 17) Suksiripattanapong, C., Horpibulsuk, S., Boongrasan, S., Udomchai, A., **Chinkulkijniwat, A.**, and Arulrajah, A. (2015), "Unit weight, strength and microstructure of water treatment sludge-fly ash geopolymer lightweight cellular geopolymer", *Construction and Building Materials*, Vol.94 pp.807-816 (SCI, SCOPUS) (IF2014 = 2.296).
- 18) Neramitkornburi, A., Horpibulsuk, S., Shen, S.L., **Chinkulkijniwat, A.**, Arulrajah, A. and Disfani, M.M. (2015), "Durability against wetting-drying cycles of sustainable lightweight cellular cemented construction material comprising clay and fly ash wastes", *Construction and Building Materials*, Vol.77, pp.41-49.
- 19) **\*Chinkulkijniwat, A.**, Horpibulsuk, S., and Samprich, S. (2014), Modelling of coupled mechanical-hydrological processes in compressed-air assisted tunneling in unconsolidated sediments, *Transport in Porous Media* (in press).
- 20) Horpibulsuk, S., Munsrakest, V., Udomchai, A, **Chinkulkijniwat, A.**, and Arulrajah, A. (2014), Strength of sustainable non-bearing masonry unit

manufacturing from calcium carbide residue and fly ash, *Construction and Building Materials*, Vol.71, pp.210-215.

- 21) Phetchuay, C., Horpibulsuk, S., Suksiripattanpong, C., **Chinkulkijniwat, A.**, Arulajah, A. and Disfani, M.M. (2014), Calcium carbide residue: Alkaline activator for clay-fly ash geopolymer, *Construction and Building Materials*, Vol.69, pp.285-294.
- 22) Horpibulsuk, S., Suddeepong, A., Suksiripattanapong, C., **Chinkulkijniwat, A.**, Arulajah, A. and Disfani, M.M. (2014), Water-void/cement ratio identity of lightweight cellular cemented material, *Journal of Materials in Civil Engineering*, ASCE doi:10.1061/(ASCE)MT.1943-5533.0001110.
- 23) Kumpala, A., Horpibulsuk, S., Prongmanee, N. and **Chinkulkijniwat, A.** (2014), Influence of wet-dry cycles on compressive strength of calcium carbide residue-fly ash stabilized clay, *Journal of Materials in Civil Engineering*, ASCE, doi: 10.1061/(ASCE)MT.1943-5533.0000853.
- 24) Kumpala, A., Horpibulsuk, S., **Chinkulkijniwat, A.** and Shen, S.L. (2013), Engineering properties of recycled calcium carbide residue stabilized clay as fill and pavement materials, *Construction and Building Materials*, Vol. 46, pp.203-210.
- 25) Horpibulsuk, S., Suksiripattanapong, C. and **Chinkulkijniwat, A.** (2013), Design method for bearing reinforcement earth wall, *Geotechnical Engineering Journal* (invited paper) (in press).
- 26) Kumpala, A., Horpibulsuk, S., Prongmanee, N. and **Chinkulkijniwat, A.** (2013), Influence of wet-dry cycles on compressive strength of calcium carbide residue-fly ash stabilized clay, *Journal of Materials in Civil Engineering*, ASCE (in press).
- 27) Horpibulsuk, S., Phetchuay, C., **Chinkulkijniwat, A.** and Cholaphatsorn, A. (2013), Strength development in silty clay stabilized with calcium carbide residue and fly ash, *Soils and Foundations*, Vol.53, No.4 (in press).
- 28) Horpibulsuk, S., Suddeepong, A., Chamket, P. and **Chinkulkijniwat, A.** (2013), Compaction behavior of fine-grained soils, lateritic soils and crushed rocks, *Soils and Foundations*, Vol.53, No.1, pp.166-172.
- 29) Suksiripattanapong, C., Horpibulsuk, S., **Chinkulkijniwat, A.**, and Chai, J.C. (2013), Pullout resistance of bearing reinforcement embedded in coarse-grained soils, *Geotextiles and Geomembranes*, Vol.36, pp.44-54.
- 30) Horpibulsuk, S., Suddeepong, A., Chinkulkijniwat, A., and Liu, M.D. (2012) Strength and compressibility of lightweight cemented clays, *Applied Clay Science*, Vol.69, pp.11-21.
- 31) Horpibulsuk, S., **Chinkulkijniwat, A.**, Cholaphatsorn, A., Suebsuk, J., and Liu, M.D. (2012), "Consolidation behavior of soil cement column

improved ground”, Computers and Geotechnics (Accepted for publication).

- 32) \***Chinkulkijniwat, A.** and Horpibulsuk, S. (2012), “Field Strength Development of Repaired Pavement using the Recycling Technique”, Quarterly Journal of Engineering Geology and Hydrogeology (accepted for publication).
- 33) Suksiripattanapong, C., **Chinkulkijniwat, A.**, Horpibulsuk, S., Rujikiatkamjorn, C., and Tangsutinon, T. (2011), “Numerical Analysis of Bearing Reinforcement Earth (BRE) Wall”, Geotextiles and Geomembranes (Tentatively accepted for publication).
- 34) Horpibulsuk, S., Phochan, W., Suddeepong, A., **Chinkulkijniwat, A.** and Liu, M.D. (2011), “Strength development in blended cement admixed saline clay”, Applied Clay Science (in press).
- 35) Horpibulsuk, S., Suksiripattanapong, C., Niramitkornburee, A., **Chinkulkijniwat, A.**, and Tangsutinon, T. (2011), “Performance of earth wall stabilized with bearing reinforcements”, Geotextiles and Geomembranes (in press).
- 36) Horpibulsuk, S., Phetchuay, C., and **Chinkulkijniwat, A.** (2011), “Soil stabilization by calcium carbide residue and fly ash”, Journal of Materials in Civil Engineering, ASCE (in press).
- 37) Horpibulsuk, S., Yangsukaseam, N., **Chinkulkijniwat, A.**, and Du, Y.J. (2011), “Compressibility and permeability of Bangkok clay compared with kaolinite and bentonite”, Applied Clay Science, Vol.52, pp.150-159.
- 38) Horpibulsuk, S., Rachan, R., Suddeepong, A., and **Chinkulkijniwat, A.** (2011), “Strength development in cement admixed Bangkok clay: laboratory and field investigations”, Soils and Foundations, Vol.51, No.2, pp.239-251.
- 39) Kosa, P., Kulworawanichpong, T., Srivoramas, R., **Chinkulkijniwat, A.**, Horpibulsuk, S., and Teaumroong, N. (2011), “The potential micro-hydropower projects in Nakhon Ratchasima province, Thailand”, Renewable Energy, Vol.36, No.3, pp.1133-1137.
- 40) \***Chinkulkijniwat, A.**, Man-koksung, E, Uchaipichat, A., and Horpibulsuk, S. (2010), “Compaction characteristics of non-gravel and gravelly soils using a small compaction apparatus”, Journal of ASTM International. Vol.7, No.7, Paper ID JAI102945.
- 41) Horpibulsuk, S., Rachan, R., **Chinkulkijniwat, A.**, Raksachon, Y., and Suddeepong, A. (2010), “Analysis of strength development in cement-stabilized silty clay based on microstructural considerations”, Construction and Building Materials, Vol.24, pp.2011-2021.

(\*: corresponding author)

## **Int. Journal Reviewers:**

### **A.D. 2014**

Three manuscripts for **Soils and Foundations**

Three manuscripts for **Journal of Materials in Civil Engineering: ASCE**

Two manuscripts for **International Journal of Geomechanics and Engineering**

One manuscript for **Canadian Geotechnical Journal**

One manuscript for **SEAGS & AGSSEA Geotechnical Engineering Journal**

### **A.D. 2015**

Two manuscripts for **Soils and Foundations**

One manuscript for **Journal of Materials in Civil Engineering: ASCE**

One manuscript for **Journal of Geosynthetics International**

### **A.D. 2016**

Two manuscripts for **Natural Hazards**

One manuscript for **Journal of Materials in Civil Engineering: ASCE**

Two manuscripts for **International Soils and Foundations**

One manuscript for **Transportation Geotechnics**

### **A.D. 2017**

One manuscripts for **Soil and Foundation**

One manuscripts for **International Journal of Geomechanics: ASCE**

One manuscripts for **International Journal of Materials in Civil Engineering: ASCE**

One manuscript for **Lowland International Journal**

One manuscript for **Transportation Geotechnics**

## **Guest Speakers:**

1. Cost Estimation for Government Construction Projects, Short course in cost estimation, Institute of Engineering, Suranaree University of Technology, 2010.
2. Soil Investigations, Short course for preliminary design for navigation channel, Marine Department, December, 2013.
3. How to Start Research Word Effectively, Université des Mascareignes, November 2014.
4. Journal Writing Technique, Workshop on an Enhancement of Journal Writing, Ratchaputra Nakhon Ratchasima University, June 2016.