

**Jason Ngui**

Connecting data towards meaningful interpretation

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CV

Education

- Ph.D. in Civil Engineering, National Chiao Tung University, 2019
 - Dissertation : Advanced time domain reflectometry analyses for flexible dielectric spectroscopy
- M.Sc. in Civil Engineering, National Chiao Tung University, 2014
- BEng. (Hons) in Civil Engineering, The Hong Kong Polytechnic University, 2013
 - Final year project : Taxi drivers' responses in dilemma zone at signal control junctions

Work experience

- 2019 - current: Postdoctoral Researcher
 - Disaster Prevention and Water Environment Research Centre (NYCU / NCTU)
 - National Yang Ming Chiao Tung University / National Chiao Tung University
 - Co-advising doctoral and masters student
 - Handling project execution and management
 - Research discussion and publication composition
 - Virtual server deployment
 - Deploy and maintain IoT monitoring stations
 - PCB layout design, assembling, testing and deployment
 - Conduct engineering geophysics exploration (surface and borehole) works
 - time-domain reflectometry (TDR)
 - surface seismic
 - electrical resistivity tomography (ERT)
 - borehole televiewer (acoustic and optical)
 - borehole electric-logging (E-logging)
 - borehole flowmeter
- 2014 - 2019: Lab Student Leader
 - Geo-Imaging and Geo-Nerve Research Group, National Chiao Tung University
 - Supervisor: Professor Chih-Ping Lin
 - Managed laboratory operations (resources, inventory, networking)
 - Led 20++ geophysical exploration field works
 - Co-advised masters student
 - Participated in 3 joined projects between universities as point of contact
- 2011,2013: Leader of PolyU Global Student Challenge (GSC) Student Ambassador
 - International Affairs Office (IAO), The Hong Kong Polytechnic University (HKPU)
 - Student Ambassador team leader

- Liaison between office and ambassadors
 - GSC administration works
 - GSC team escort
- 2012-2013: Design Project Group Leader
 - CSE Design Project, The Hong Kong Polytechnic University (HKPU)
- Summer 2012: Assistant Engineer
 - Huang Hsiang Construction Corporation
 - Project tracking and routine maintenance works
 - Home inspection and floor plan amendment
 - Occupation permit application
- 2011-2013: Student Helper
 - IAO, HKPU
 - Student actor in university promotion video
 - Customer service
 - Clerical support
 - Event and seminar registration
 - Education fair promoter
 - Photographer

Skills

- Languages
 - English
 - Mandarin
 - Malay
 - Cantonese
 - Hakka
- Coding
 - MATLAB
 - Python
 - Arduino C++
 - LabVIEW
- Coding environment
 - VSCode
 - Powershell
 - GitHub
- Full stack experience
 - Node-RED
 - MQTT
 - nginx
 - MySQL
 - SQLite

- Markdown

Geotechnical / Geophysical Analysis
AGI EarthImager, Consol Multiphysics, SurfSeis, RGLDip, DIPS, Slope2000, PLATE, ETABS, IBM SPSS, Maple, Mathematica
CAD / GIS
AutoCAD, Google Earth Pro, QGIS, Tecplot, Surfer, KiCAD, easyEDA, Grapher
IoT related
Software-hardware integration, Raspberry Pi, Arduino, LoRa, NB-IoT, wireless sensor network, customized low powered data-logging device

Publications

- [Improved TDR Method for Quality Control of Soil-Nailing Works](#)

Chung, C.-C., Lin, C.-P., Wang, K., Lin, C.-S., and Ngui, Y. J. (2016). Improved TDR Method for Quality Control of Soil-Nailing Works. *Journal of Geotechnical and Geoenvironmental Engineering*, 142(1), 06015011. [https://doi.org/10.1061/\(ASCE\)GT.1943-5606.0001372](https://doi.org/10.1061/(ASCE)GT.1943-5606.0001372)

- [A novel TDR signal processing technique for measuring apparent dielectric spectrum](#)

Lin, C.-P., Ngui, Y. J., and Lin, C.-H. (2017). A novel TDR signal processing technique for measuring apparent dielectric spectrum. *Measurement Science and Technology*, 28(1), 015501. <https://doi.org/10/gd82dz>

- [Laboratory Evaluation of Soil-Nailing Quality Inspection by an Improved TDR Method](#)

Chung, C.-C., Lin, C.-P., Ngui, Y.-J., Wang, K., and Lin, C.-H. (2016). Laboratory Evaluation of Soil-Nailing Quality Inspection by an Improved TDR Method. *Journal of GeoEngineering*, 11(3), 143-149. [https://doi.org/10.6310/jog.2016.11\(3\).4](https://doi.org/10.6310/jog.2016.11(3).4)

- [Multiple Reflection Analysis of TDR Signal for Complex Dielectric Spectroscopy](#)

Lin, C.-P., Ngui, Y. J., and Lin, C.-H. (2018). Multiple Reflection Analysis of TDR Signal for Complex Dielectric Spectroscopy. *IEEE Transactions on Instrumentation and Measurement*, 67(11), 2649-2661. <https://doi.org/10.1109/TIM.2018.2822404>

- [Dielectric Spectroscopy Using Dual Reflection Analysis of TDR Signals](#)

Ngui, Y. J., Lin, C.-P., and Wu, T.-J. (2019). Dielectric Spectroscopy Using Dual Reflection Analysis of TDR Signals. *Sensors*, 19(6), 1299. <https://doi.org/10/gfxg3v>

- [Diameter assessment of soilcrete column using in-hole electrical resistivity tomography](#)

Lin, C.-H., Lin, C.-P., Ngui, Y. J., Wang, H., Wu, P.-L., He, G.-J., and Liu, H.-C. (2019). Diameter assessment of soilcrete column using in-hole electrical resistivity tomography. *Geotechnique*, 1-13. <https://doi.org/10/gf9vbx>

- [Rigidity Strengthening of Landslide Materials Measured by Seismic Interferometry](#)

Kang, K.-H., Chao, W.-A., Yang, C.-M., Chung, M.-C., Kuo, Y.-T., Yeh, C.-H., Liu, H.-C., Lin, C.-H., Lin, C.-P., Liao, J.-J., Chang, J.-M., Ngui, Y.-J., Chen, C.-H., and Tai, T.-L. (2021). Rigidity Strengthening of Landslide Materials Measured by Seismic Interferometry. *Remote Sensing*, 13(14), 2834. <https://doi.org/10/gmsnxt>

- [Improved technical guide from physical model tests for TDR landslide monitoring](#)

Chung, C.-C., Lin, C.-P., Ngui, Y. J., Lin, W.-C., and Yang, C.-S. (2021). Improved technical guide from physical model tests for TDR landslide monitoring. *Engineering Geology*, 106417. <https://doi.org/10/gnj73t>

Talks

- [Conference Proceeding Talk on TDR PVA for Soil](#)

March 22, 2017

Conference proceedings talk at SAGEEP 2017, Denver CO, USA

- [Conference Proceeding Talk on TDR PVA, DRA and MRA](#)

June 05, 2018

Conference proceedings talk at ISEMA 2018, Lublin, Poland

- [Conference Proceeding Talk on TDR MRA for Soil](#)

October 16, 2019

Conference proceedings talk at 16ARC 2019, Taipei, Taiwan

- [Conference Proceeding Talk on TDR PVA on SSC measurement](#)

July 28, 2021

Conference proceedings talk at ISEMA 2021 (Online), Kiel, Germany

- [A very short introduction to AIoT](#)

August 30, 2021

Talk at NYCU, Hsinchu, Taiwan

- [Smart field monitoring with AIoT](#)

September 30, 2021

Talk at NYCU, Hsinchu, Taiwan

- [Teachable machine](#)

November 08, 2021

Talk at NYCU, Hsinchu, Taiwan

- [即時坡地動態預警—由物聯網走向智聯網](#)

December 01, 2021

Talk at 坡地場址調查觀測及變形機制分析成果發表會, Taipei, Taiwan

Teaching

- [Soil Mechanics Laboratory](#)
- [Engineering Mathematics \(I\)](#)

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