



# VYNOTDNI RATHINASAMY

PHD IN CIVIL ENGINEERING

✉ [vynotdni@usm.my](mailto:vynotdni@usm.my)

## PROFILE

An ardent, flexible and fast learning person with an interest to engage in research related to civil engineering, geology, water resources and climate change. I especially like collaborating with researchers from various background to cultivate new skills.

## EDUCATION

- 2017-2021 **Doctor of Philosophy in Civil Engineering**  
Universiti Teknologi Malaysia  
Thesis: Characterisation and evaluation of rock aquifer In Jurong Formation, Johor Bahru, Malaysia
- 2013-2017 **Bachelor of Civil Engineering**  
Universiti Teknologi Malaysia

## RESEARCH EXPERIENCES

- 2017-2021 **Postgraduate Student, Geotropik Centre (Groundwater exploration in Johor Bahru)**
- Conducted preliminary studies including a review of previous literature and as well as catchment area and recharge analysis.
  - Carried out field works including geological mapping, geophysical investigation (along with experts from Universiti Sains Malaysia), rock sample collection from outcrops to enhance understanding of subsurface geology of Nusajaya, Johor.
  - Monitored and logged drilling works of three wells for groundwater exploration. Also, collected drill fragments and groundwater samples for laboratory tests.
  - Studied fracture system of the study area using downhole camera survey and monitored pumping tests.
  - Carried out laboratory tests such as porosity, point load test and groundwater quality.
  - Involved in the documentation and reporting throughout the groundwater exploration project.
- 2020 **Project Team Member (Sedili Kechil), Geotropik Centre & LESTARI**
- Collected and monitored water quality of Sedili Besar River on-site for eco-tourism development purpose.
- 2019 **Participant of International Summer Field Course in Geoscience – Fire and Water – Volcanism, Groundwater and Society, Universitas Gajah Mada**
- Involved in fieldworks such as geological mapping and monitoring existing wells for groundwater level and quality in Klaten, Indonesia.
  - Visited several geological sites and museums to understand volcanology.
- 2019 **Project Team Member (Ipoh), Geotropik Centre**
- Carried out geological mapping near study area in Ipoh, Perak and conducted several on-field tests including slake durability test. Besides, conducted several laboratory tests including point-load and moisture content tests.
  - Monitored and collected data of excavation works.
  - Interpreted geological and geophysical data to characterize tropically weathered rock mass for excavation and assisted to develop guidelines of excavation for the study area.
- 2019 **Project Team Member (Sedenak), Geotropik Centre**
- Carried out field works including geological mapping and geophysical investigation to understand subsurface geology of Sedenak, Johor.

- Monitored groundwater level in existing wells and collected samples for quality test.
- Developed groundwater model for exploration using Rockware software.

- 2018 **Project Team Member (Tanjung Kupang), Geotropik Centre**
- Conducted geological and geophysical investigation for groundwater exploration in Tanjung Kupang, Johor.
- 2017 **Project Team Member (Stulang), Geotropik Centre**
- Monitored and logged drilling of a tubewell in Stulang, Johor.
  - Collected rock fragments and groundwater samples for porosity and quality tests respectively.
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## EMPLOYMENT EXPERIENCES

- August 2022 –  
- Now **Senior Lecturer, Universiti Sains Malaysia**
- Engaged in teaching Geotechnical Engineering subject
- May 2022 –  
July 2022 **Research Officer, Geotropik Centre, Universiti Teknologi Malaysia**
- Participated in multi-disciplinary teams assigned to special projects and work collaboratively with employees in other sections
  - Engaged in various programs as organizing committee
  - Assisted several local and international internship students in carrying out field and laboratory works as well as preparing reports for various consultancy projects.
  - Conducted sharing sessions on hydrogeological assessments especially for rock aquifer characteristics.
- Nov 2021 –  
April 2022 **Research Assistant, Geotropik Centre, Universiti Teknologi Malaysia**
- Involved in the monitoring and reporting the projects.
  - Prepared technical reports on ongoing projects and peer-reviewed scientific publications
  - Engaged in various programs as organizing committee
- 2020-2021 **Graduate Research Assistant, Geotropik Centre, Universiti Teknologi Malaysia**
- Assisted team in writing proposal for grants, i.e.: groundwater exploration and policy development for rock aquifer.
  - Assisted several local and international internship students as well as a few undergraduate students.
  - Involved in the monitoring, documentation and reporting the projects.
  - Conducted preliminary studies and field works such as geological mapping and geophysical investigation to determine potential high yielding fractured zone for groundwater exploration in Universiti Teknologi Malaysia.
- 2016 **Internship, Site Engineer, Telford Signature Sdn. Bhd.**
- Supervised and documented the progress of project during the construction of footing.
  - Prepared detailed as-built drawings for claim purposes.
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## VOLUNTEERING EXPERIENCES

- 2020 **Virtual Producer, Geo Engineering International Conference, Geotropik Centre**
- Guaranteed continuity of program by technically assisting committee and participants throughout the conference.
- 2019 **Organizing Committee, International Symposium on Soft Ground Improvement, Geotropik Centre**
- Ensured a positive environment for the committee and participants by providing constant assistance throughout the event.

2018

## Organizing Committee, International Short Course on Earthquake Source and Hazard, Geotropik Centre

- Developed digital materials for course marketing and assisted the technical committee on the day of event.

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## PUBLICATIONS

1. **Rathinasamy, V.**, Mohammad, E. T., & Komoo, I. (2018). Review on rock aquifers researches conducted in Malaysia. *MATEC Web of Conferences*, 250. <https://doi.org/10.1051/mateconf/201825001007>.
2. **Rathinasamy, V.**, Mohammad, E. T., Komoo, I., Kiftiah, M., & Al Mujida. (2018). Review on exploration of rock aquifers. *Warta Geologi*, 44(3), 199.
3. **Rathinasamy, V.**, & Mohammad, E. T. (2018). An insight of groundwater status in Malaysia. *Proceeding of 7th International Graduate Conference on Engineering, Science and Humanities*, 283-285.
4. **Rathinasamy, V.**, Mohammad, E. T., & Komoo, I. (2019). Research trend of rock aquifer, in Hasbollah, D. Z. A., Mohamad, E. T., & Nazir, R. (eds.). *Geoengineering in tropical region: Research and development perspective*. Geotropik Centre of Tropical Geoengineering, Universiti Teknologi Malaysia, 1-23, ISBN:9789672171959.
5. **Rathinasamy, V.**, Mohammad, E. T., Komoo, I., Hanapi, M. N. B., & Bhatawdekar, R. (2020). Influence of physio-mechanical properties of tuff on penetration rate – A case study in Southern Johor Bahru, Malaysia. *Journal of Mines, Metals & Fuels*, 68(4), 136-143.
6. **Rathinasamy, V.**, Mohammad, E. T., Komoo, I., Legiman, M. K. A., Romanah, N. A., Saad, R., & Hanapi, M. N. B. (2021). An assessment of relationship between regional factors and borehole productivity in Southern Johor Bahru. *Journal of Mines, Metals & Fuels*.
7. Romanah, N. A., Mohamad, E. T., Saad, R., Hasbollah, D. Z. A., Legiman, M. K. A., & **Rathinasamy, V.** (2021). Subsurface assessment: Correlation between seismic velocity and SPT-N. *Journal of Mines, Metals & Fuels*.
8. Legiman, M. K. A., Mohamad, E. T., Kusmawati, E., Romanah, N. A., **Rathinasamy, V.**, & Slamet, F. (2021). Effect of moisture content to the strength of sandstone, shale and granite from various weathering grade. *Journal of Mines, Metals & Fuels*.
9. **Rathinasamy, V.**, Mohamad, E. T., Komoo, I., Legiman, M. K. A., Amaniyah, N., Bhatawdekar, R. M., Hanapi, M. N., Suparmanto, E. K. (2022). Fracture characterization using downhole camera in deep boreholes at Southern Johor Bahru, Malaysia. *Lecture Notes in Civil Engineering*.
10. Legiman, M. K. A., Mohamad, E. T., Suparmanto, E. K., Amaniyah, N., **Rathinasamy, V.** (2022). Assessment parameter of rock masses for excavation in relation to moisture content. *Lecture Notes in Civil Engineering*.
11. Nanadrekar, J. S. J., Subramanian, M., Aditya, U., Jain, G., **Rathinasamy, V.**, Bhatawdekar, R. M. (2022). Robots In mining. *Lecture Notes in Civil Engineering*.
12. Nandrekar, J. S., Manav, S., Jain, G., **Rathinasamy, V.**, Bhatawdekar, R. M. (2022). Operators' skill evaluation with virtual reality technology. *Lecture Notes in Civil Engineering*.

## CONFERENCES

1. Presented "Review on rock aquifers researches conducted in Malaysia" in The 12th International Civil Engineering Post Graduate Conference - The 3rd International Symposium on Expertise of Engineering Design (SEPKA-ISEED), Universiti Teknologi Malaysia, Senai (2018).
2. Presented "Review on exploration of rock aquifers" in National Geoscience Conference, Geological Society Malaysia, Pulau Pinang (2018).

3. Presented “An insight of groundwater status in Malaysia” in 7th International Graduate Conference on Engineering, Science and Humanities, School of Graduate Studies, Universiti Teknologi Malaysia, Skudai (2018).
  4. Presented “Hydrogeological characterization of volcanic-sedimentary rock aquifer within Southern Johor Bahru, Malaysia” in Australasian Groundwater Conference, International Association of Hydrogeologists, Brisbane (2019).
  5. Presented “An assessment of relationship between regional factors and borehole productivity in Southern Johor Bahru” in Geo Engineering International Conference, Geotropik, Virtual Conference (2020).
  6. Presented “Fracture characterization using downhole camera in deep boreholes at Southern Johor Bahru, Malaysia” in International Conference on Geotechnical challenges in Mining, Tunneling & Underground structures (2021).
  7. Presented “Prospects and Challenges in Groundwater Exploration at Southern Johor Bahru” in Geo-Engineering Conference and Anti-Collapse Geostucture Competition (2022).
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## SKILLS

- Languages : Excellent conversational and written skills in English, Malay and Tamil
- Software : Basic in Python, Matlab; Intermediate in ArcGIS; Good in AquaCHEM, AQTESOLV, Rockware, AutoCAD & Revit
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## AWARDS

- 2018 First Runner Up in 3 Minute Thesis Competition at school level in Universiti Teknologi Malaysia.
- 2016 First Runner Up in The Malaysian Structural Steel Association (MSSA) Open Ideas Competition (OIC)