

**Present affiliation:** Faculty of Environment and Natural resources, Ho Chi Minh City University of Technology (HCMUT), Vietnam National University, Ho Chi Minh City (VNU-HCM)

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**Expertise in Hydrogeology, Groundwater Geochemistry, Groundwater Modelling, Water Resources Management**

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## **Education**

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- ✧ **2019:** Ph.D., Department of Environmental Engineering, Kunsan National University, Korea  
(**Thesis title:** A Hydrogeochemical Study on Groundwater in Sedimentary Aquifers of Southern Vietnam)
- ✧ **2015:** Master, Department of Water Resources Engineering, Chulalongkorn University, Thailand  
(**Thesis title:** Impact of climate change on groundwater recharge in Ho Chi Minh City Area)
- ✧ **2012:** Bachelor, Department of Business Administration, Ho Chi Minh City University of Economic
- ✧ **2007:** Engineer, Department of Hydrogeology and Geology engineering, Hanoi University of Mining and Geology

## **Professional Experiences**

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- 3/2021 – present:** Lecturer, Faculty of Environment and Natural resources, Ho Chi Minh City University of Technology (HCMUT), Vietnam National University, Ho Chi Minh City (VNU-HCM).
- 2009-3/2021:** Deputy Project manager, Division for Water Resources Planning and Investigation for the South of Vietnam
- 8-10/2019:** Postdoctoral researcher, Soil and Groundwater Pollution Laboratory, Department of Environmental Engineering, Kunsan National University, Korea
- 2015-2019:** Researcher, Soil and Groundwater Pollution Laboratory, Department of Environmental Engineering, Kunsan National University, Korea
- 5-7/2015:** Researcher, Department of Water Resources Engineering, Chulalongkorn University, Thailand
- 2007-2009:** Engineer and team leader, Hanoi Construction Design Investigation Consultants Joint Stock Company

## **Research interests**

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- ✧ Groundwater exploration, investigation, management, and protection
- ✧ Groundwater flow and transport modelling

- ✧ Identification of Water pollution sources
- ✧ Artificial recharge
- ✧ Hydrogeochemical processes
- ✧ Surface water quality management
- ✧ Land subsidence
- ✧ Climate change impacts on groundwater resources

## Scientific Experiences

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### Experience on Conference organization

- ✧ 2021: Organize “The International Conference on Environment, Resources and Earth Sciences 2021” in Ho Chi Minh City on 29 October, 2021.
- ✧ 2016: Organize “The 2nd Vietnam-Korea Symposium on Geo-Environmental and Civil Engineering”, Ho Chi Minh University of Technology, July 5th-6th, 2016.

### Invited talk/seminars

- ✧ 2015. Asian Center for Water Research (CARE), Ho Chi Minh City, Vietnam. “Impact of climate change on groundwater recharge in Ho Chi Minh City Area”.

### Projects

- ✧ 2021-2023: Co-PI of project on “Role of microbial C, S and N cycling in the fate of As in aquifers in the Vietnamese Mekong Delta”. National Foundation for Science and Technology Development (NAFOSTED) and Swiss National Science Foundation (SNSF) Joint Research Funding Program. Funded ~100 000 USD.
- ✧ 2021-2023: Key researcher of research project entitled “Study solutions for remediation of salinized groundwater exploitation wells in the water scarcity areas of Southern Vietnam Plain”. Funded by **the Central Government of Vietnam**. Estimation cost of ~0.5 million USD
- ✧ 2020-2021: PI in writing Project proposal on “Assessment of Water Carrying Capacity for international and interprovincial rivers in Mekong Delta”. The proposal is accepted by **Ministry of Natural Resources and Environment** and the project is conducting by Division for Water Resources Planning and Investigation for the South of Vietnam. Estimation cost of ~3 million USD.
- ✧ 2020-2021: Member of project on protection of groundwater in the big cities of Vietnam: Bac Lieu City. Funded by **the Central Government of Vietnam**.
- ✧ 2020-2021: Groundwater expert, Governance of Land Subsidence and Groundwater Management in the Mekong Delta, **Arcadis Nederland B.V.**
- ✧ 2019-2021. Co-PI of project on Investigation and Assessment of potential water resources for domestic and economic development demand of Chang Riec area, Tan Lap, Tan Bien, Tay Ninh. Funded by **Tay Ninh Department of Science and Technology**.

- ✧ 2019-2020: Researcher of project on “A study on the development of good water resources and techniques enhancing their values”. Funded by **Korea Institute of Geology and Mineral Resources**.
- ✧ 2019-2022: Researcher of project (from 8-10/2019) on “A geochemical study on the susceptibility of sedimentary aquifers around the Mekong Delta to the climate change”. Funded by **South Korea National Research Foundation**.
- ✧ 2018-2019: Water modeler of project on “Development of measures for water quality improvement of Deokjin Pond”. Funded by **the Jeonju City, South Korea**
- ✧ 2016-2019: Ph.D. student of project on “A Hydrogeochemical Study on the Acidic Groundwater and the Brackish to Saline Groundwater in Quaternary Coastal Aquifers of South Vietnam”. Funded by **National Research Foundation of South Korea (NRF)**.
- ✧ 2011-2013: Groundwater modeler of project on “Development and Implementation of Climate Change Adaptation Measures in Coastal Areas in Vietnam”. The project was financed by the **Ministry for Foreign Affairs of Finland (ICI Funds)**. Cost of ~ 500 000 EURO.
- ✧ 2011-2013: Deputy Project Manager of project on “Construction of groundwater monitoring network for Tay Ninh Province”. Funded by **Department of Science and Technology**.
- ✧ 2011-2016: Deputy Project Manager of project on “Investigation and assessment status of groundwater exploitation, Dong Nai Province” during 2011-2013. The project funded by **Dong Nai Department of Natural Resources and Environment**. Estimation cost of ~ 2.5 million USD
- ✧ 2011-2012: Groundwater modeler of project on “Investigation and estimation of groundwater reserves for exploitation at Vinh Loc, Binh Chanh, Ho Chi Minh City”. Funded by **Vinh Loc Industrial Park**.
- ✧ 2011-2012: Team leader of project on “Investigation and estimation of groundwater reserves for exploitation at My Loc, Can Giuoc, Long An”. Funded by **Long Hau Industrial Park**.
- ✧ 2009-2010: Team leader of project on “management of groundwater resources for Soc Trang Province, Vietnam”. Funded by **Soc Trang Department of Natural Resources and Environment**.
- ✧ 2009: Member of project on “Investigation and estimation of groundwater reserves for exploitation at Phuoc Dong-Boi Loi, Tay Ninh province”. Funded by **Phuoc Dong-Boi Loi Industrial Park**.

#### Peer reviewed Journal

- ✧ **Ha, Q.K.**, Tran Ngoc, T.D., Vo, L.P, Nguyen, H.Q., Dang, D.H., 2021. Groundwater in Southern Vietnam: understanding geochemical processes to better preserve the critical water resource. *Science of Total Environment (accept)*
- ✧ Dang An Tran, Maki Tsujimura, Hai V. Pham, Tam V. Nguyen, Loc Huu Ho, Phu Le Vo, **Quang Khai Ha**, Thanh Duc Dang, Doan Van Binh & Quang-Van Doan, 2021. Intensified salinity

- intrusion in coastal aquifers due to groundwater overextraction: a case study in the Mekong Delta, Vietnam. *Environ Sci Pollut Res*. <https://doi.org/10.1007/s11356-021-16282-3>
- ✧ **Ha, Q.K.**, Choi, S., Phan, N.L., Kim, K., Phan, C. N., Nguyen, V.K., Ko, K.S., 2019. Occurrence of metal-rich acidic groundwaters around the Mekong Delta (Vietnam): A phenomenon linked to well installation. *Science of Total Environment*, 654, 1100-1109
  - ✧ **Ha, Q.K.**, Kim K., Phan, N.L., Phung, T.H., Lee, J., Nguyen, V.K., Phan, C.N., 2019. A hydrogeological and geochemical review of groundwater issues in southern Vietnam. *Geosciences Journal*, 23,1005-1023.
  - ✧ **Ha, Q.K.**, Kim, K., 2019. Mobilization heavy metals in a saline confined aquifer as a consequence of rainwater injection: A case study in southern Vietnam. *Hydrology Journal (submitted)*
  - ✧ **Ha, Q.K.**, Kim, K., Lee, J., 2019. Possible misinterpretation of stream parameters from tracer injection tests by the effect of immobile zones. *Environmental Earth Sciences (submitted)*

### Conference papers

- ✧ **Ha, Q.K.**, Le, T.M.V., Vo, L.P., Nguyen, H.Q., Abhijit, M., 2021. An assessment of groundwater quality for drinking and agricultural purposes in Ca Mau peninsula, Vietnamese Mekong Delta. *IOP Conference Series: Earth and Environmental Science (under review)*
- ✧ Hoang, M.N., Vo, L.P., Bui, T.V., Pham H., **Ha, Q.K.**, 2021. Health risk assessment of arsenic in drinking groundwater: A case study in a central high land area of Vietnam. *IOP Conference Series: Earth and Environmental Science (under review)*
- ✧ **Ha, Q.K.**, Pham Q.N., Vo L.P., Tran, T.L., Ta, T.T., Doan, V.C., Pham, H.G., 2021. Identification of saline groundwater distribution in coastal aquifers: A study in Ca Mau Peninsula, Mekong Delta. *4th Asia Pacific Meeting on Near Surface Geoscience and Engineering (NSGE 2021) (accept)*
- ✧ **Ha, Q.K.**, Vo, L.P., Phan, C.N., Pham, V.H., Nguyen, V.K., 2021. Identification of freshwater-saltwater interface in coastal areas using combination of geophysical and geochemical methods: A case study in Mekong Delta, Vietnam. *IOP Conference Series: Earth and Environmental Science*, 652, 012006 (**Scopus**)
- ✧ **Ha, Q.K.**, Choi, S., Kim, K. 2018. Processes Causing Strong Acidic Groundwaters in and Around the Mekong Delta Area. In: Tran-Nguyen, HH., Wong, H., Ragueneau, F., Ha-Minh, C. (eds) *Proceedings of the 4th Congrès International de Géotechnique - Ouvrages -Structures. CIGOS 2017*. Lecture Notes in Civil Engineering, vol 8. Springer, Singapore (**Scopus**)
- ✧ **Ha, Q.K.**, Sucharit, K., 2015. Impact of Climate Change on groundwater recharge in Ho Chi Minh city Area, *THA2015 International Conference on Climate change and Water & Environment Management in Monsoon Asia” January 2015*, Thailand.

### Congress Participation

- ✧ **Ha, Q.K.**, Phung, T.H., Lee, J., Phan, N.L., Kim, K., 2019, Alkalinity change of groundwater after sampling and the possibility of its correction by concentration change of dissolved species. *KoSSGE 2019 Conference. October 10-11. (Poster)*
- ✧ **Ha, Q.K.**, Phan, N.L., Kim, K., 2018, Mobilization of Fe, Mn, and As in saline confined aquifer in response to rainwater injection. *45th IAH 2018 CONGRESS Groundwater and life: Science and Technology into Action* (abstract), Daejeon, September 9–14. (Oral)
- ✧ Phan, N.L., **Ha, Q.K.**, Choi, S., Kim, K., 2018. Geochemical processes controlling heavy metal concentrations in the eastern part of Ho Chi Minh City. *45th IAH 2018 CONGRESS Groundwater and life: Science and Technology into Action* (abstract), Daejeon, September 9–14. (oral)
- ✧ **Ha, Q.K.**, Phan, N.L., Kim, K., 2018. Artificial recharge test performed for a confined sedimentary aquifer in south Vietnam: Geochemical response of groundwater to the rainwater injection. *KoSSGE 2018 Conference. Seoul, April 12-13. (poster)*
- ✧ Phan, N.L., **Ha, Q.K.**, Choi, S., Kim, K., 2017. A statistical analysis of groundwater chemistry in the recharge area of Ho Chi Minh City, Vietnam. *Conference of Soil and Groundwater Environment 2017*, October 19-20, Jeju, Korea. (poster)
- ✧ **Ha, Q.K.**, Choi, S., Phan, N.L., Kim, K. 2017. Origin and consequences of acidic groundwaters in the Southeastern of Vietnam, *Joint conference of the Geological Science & Technology of Korea*, April 19-21, 2017 (oral)
- ✧ **Ha, Q.K.**, Choi, S., Kim, K., 2016. Process causing acidic groundwater in the south Vietnam. *The 2nd Vietnam-Korea Symposium on Geo-Environmental and Civil Engineering, Ho Chi Minh University of Technology*, July 5th-6th, 2016. (oral)
- ✧ Phan, N.L., **Ha, Q.K.**, Kim, K., 2016. Delineation of freshening and seawater intrusion zones in Ho Chi Minh City area. *The 2<sup>nd</sup> Vietnam-Korea Symposium on Geo-Environmental and Civil Engineering, Ho Chi Minh University of Technology, July 5<sup>th</sup>-6<sup>th</sup>, 2016. (oral)*
- ✧ **Ha, Q.K.**, Choi, S., Kim, K., 2016. Origin of acidic groundwater in the alluvial aquifers of south Vietnam: A preliminary study", *Joint conference of the Geological Science & Technology of Korea*, April 20-22, 2016 (oral)

### Domestic Reports

- ✧ **Ha, Q.K.**, 2013. Simulation impacts of climate change and sea level rise on groundwater resources of Long Dien district, Vung Tau province, Vietnam. Division for Water Resources Planning and Investigation for the South of Vietnam.
- ✧ Nguyen, T.T., **Ha, Q. K.**, 2013. Report on “Construction of groundwater monitoring network for Tay Ninh Province”. Division for Water Resources Planning and Investigation for the South of Vietnam.
- ✧ Phan, C.N., **Ha, Q. K.**, et al., 2012. Report on “Investigation and assessment of groundwater exploitation status of Long Khanh, Dong Nai Province”. Division for Water Resources Planning and Investigation for the South of Vietnam.

- ✧ **Ha, Q. K.**, 2011. Estimation of groundwater exploitation reserves in Vinh Loc – Binh Chanh, Ho Chi Minh City by groundwater flow modelling method. Division for Water Resources Planning and Investigation for the South of Vietnam.
- ✧ Ngo, D.C., **Ha, Q. K.**, 2010. Report on “Investigation and Assessment of groundwater exploitation status in Soc Trang Province, Mekong delta”. Division for Water Resources Planning and Investigation for the South of Vietnam.

## Teaching

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### Courses

- ✧ Water Quality Management
- ✧ Environmental Monitoring
- ✧ Climate change
- ✧ Environment and human interaction

### Students

- ✧ 04 Master students study on groundwater management, groundwater quality and marine water quality
- ✧ 08 Bachelor students study on Arsenic rich groundwater, Assessment of the resilience for coastal environment, and marine water quality

## Scientific Societies

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- ✧ Member on board of Vietnamese Geochemistry Association

## Reviewer for scientific journals

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- ✧ Science of The Total Environment
- ✧ Environmental Earth Sciences

## Social activities

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- ✧ 2016-2019: President of Vietnamese student association in Kunsan National University

## Language and Professional Skills

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- 1. Good presentation in English, and Vietnamese**
- 2. Project management, leader of group and team works**
- 3. Management of a high-tech laboratory**
- 4. Technical working**

**Field works** (Groundwater investigation; Groundwater monitoring, Well installations, Geotechnical survey; Surface water investigation; Soil sampling)

**Application of numerical modelling method (groundwater modelling:** MODFLOW, GMS; Geochemical interaction: PHREEQC; Mapping: Mapinfor, and ArcGIS; Using Water Quality Analysis Simulation Program for lake and river management; Statistical analysis: SPSS)

**Laboratory works** (Operating of high-tech instruments such as Atomic Absorption Spectroscopy (AAS), Inductive Couple Plasma (ICP), Ion chromatography (IC) and UV/Vis ...for water chemical analysis; Preforming laboratory experiments)

## Media and news

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### Media

Dong Thap Radio and Television Stations: [https://www.youtube.com/watch?v=\\_nok67yYZPI](https://www.youtube.com/watch?v=_nok67yYZPI)

Ben tre Radio and Television Stations: <https://www.youtube.com/watch?v=VE9Fgzqnh1Y>

Tay Ninh Radio and Television Stations: <https://www.youtube.com/watch?v=agMo-sUkCZc>

### News

<https://laodong.vn/xa-hoi/dong-bang-song-cuu-long-sut-lun-nghiem-trong-do-khai-thac-nuoc-ngam-892051.lldo>

<https://thuonghieucongluan.com.vn/dong-bang-song-cuu-long-dung-truong-nguy-co-sut-lun-nghiem-trong-do-khai-thac-nuoc-ngam-qua-muc-a130261.html>

<https://bnews.vn/canh-bao-ve-tinh-trang-sut-lun-tai-dong-bang-song-cuu-long/190268.html>

<https://plo.vn/do-thi/toc-do-sut-lun-chong-mat-o-dbscl-974113.html>

<https://moitruong.net.vn/toc-do-sut-lun-o-dong-bang-song-cuu-long-la-do-dau/>

<https://tuoitre.vn/can-tho-sut-lun-nhanh-nhat-o-mien-tay-20210322160615586.htm>

<https://vnexpress.net/can-tho-sut-lun-nhat-mien-tay-4252194.html>

<https://baomoi.com/can-tho-moi-nam-sut-lun-hon-5cm/c/38296996.epi>

<http://datviet.trithuccuocsong.vn/khoa-hoc/khoa-hoc/can-tho-moi-nam-sut-lun-hon-5cm-3429468/>

<https://baocantho.com.vn/ban-giai-phap-quan-tri-sut-lun-dat-va-quan-ly-nuoc-ngam-khu-vuc-dbscl-a131469.html>

<https://thegioi24.com/can-tho-sut-lun-nhat-mien-tay>

<https://enternews.vn/sut-lun-dat-tai-can-tho-dien-ra-nhanh-hon-nhieu-dia-phuong-khac-193685.html>

<https://tienphong.vn/phan-lon-tp-can-tho-se-chim-neu-khong-giam-khai-thac-nuoc-ngam-post1322083.tpo>

<http://www.baovinhlong.vn/xa-hoi/202103/can-tho-sut-lun-nhanh-nhat-o-mien-tay-3048796/>

<http://kinhtedothi.vn/tac-nhan-nao-gay-sut-lun-o-dong-bang-song-cuu-long-413607.html>

<https://www.vietnamplus.vn/canh-bao-ve-tinh-trang-sut-lun-tai-dong-bang-song-cuu-long/700834.vnp>

<https://www.thesaigontimes.vn/td/314757/di-tim-loi-giai-cho-moi-quan-he-nuoc-ngam-va-sut-lun-dat-o-dbscl.html>

<https://thanhvien.vn/tai-chinh-kinh-doanh/bao-dong-nan-hut-nuoc-ngam-qua-muc-o->

[mien-tay-1357781.html](#)

<https://vov.vn/xa-hoi/sut-lun-dat-o-dbscl-dang-nhanh-hon-gap-nhieu-lan-so-voi-nuoc-bien-dang-844989.vov>

<https://nguoidothi.net.vn/can-tho-se-nam-duoi-muc-nuoc-bien-vao-nam-2100-27924.html>