**THANH TRUONG QUOC**

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Resercher at Department of Geology Petroleum Engineering, Faculty of Geology and Petroleum Engineering

**Post-Baccalaureate academic background**

**2013-2015**: Master Engineering at Vietnam National University - Ho Chi Minh city University of Technology.

M1: Advanced Reservoir Engingeering, Reservoir Simulation, Methodology of Scientific Research, Oil and Gas Reservoir Intergrated Management, Reservoir Characterization and Analysis.

M2: Well Completion and Stimulation, Seismic Data Interpretation, Enhanced Oil Recovery, Applied Geostatistics in Petroleum Engineering. Thesis subject (6 months): “Interpretation of geophysical data to predict the distribution of facies and environment of sediment sequence M-I KNT field”. The thesis have identified the facies and sedimentary environment of BI.I sequence KNT field by synthesis and interpretation data from mud log, well logging, seismic and biostratigraphy to evaluate the hydrocarbon potential in this study area.

Supervisor: A. Prof Tran Van Xuan (email: [tvxuan@hcmut.edu.vn](mailto:tvxuan@hcmut.edu.vn) - Mobile +84 903700770) Head department of Geology Petroleum Engineering, Faculty of Geology and Petroleum Engineering *(See his recommendation letter)*

**2008-2013**: Bachelor degree in Petroleum Geology Engineering at Vietnam National University, University Ho Chi Minh city University of Technology. completed 158 credits and graduated with degree “good” . In this program, I studied many subject related geology and geophysics.

The bachelor thesis title is “*Interpretation of well test in Thien Long gas well, Cuu Long Basin*”. I have used “Ecrin” software to interpret the well test data and evaluate the oil potential and quality of geological formation. The parameters which were evaluated are permeability, transmission and boundary of reservoir, damaged of formation near the borehole after that giving some solution to enhance the quality of formation.

My supervisor: A. Prof Tran Van Xuan (email: [tvxuan@hcmut.edu.vn](mailto:tvxuan@hcmut.edu.vn) - Mobile +84 903700770) Head department of Geology Petroleum Engineering, Faculty of Geology and Petroleum Engineering. *(See his recommendation letter)*

**PAST AND CURRENT RESEARCH ACTIVITIES**

2015-2018: The aim of my research with the faculty team was to study issues related to petroleum using geophysical methods. The objective was to locate a reservoir, estimate its quality and quantity, and reserve. Besides, research is to give relevant parameters for shallow subsurface in order to assess the quality of soil for construction.

2019 to present: Since the Faculty of Geology is now concerned by groundwater issues, I focus my research activities on the resistivity of rock which plays an important role in the shallow subsurface investigation. This parameter can be used to evaluate the quality of the groundwater reservoir, determine the boundary of seawater instruction in the coastal area. For this, I started to use several geophysics techniques: Electrical Resistivity Tomography (ERT), Time Domain Electromagnetic soundings (TDEM), and well logging.

**PROFESSIONAL EXPERIENCE AND MOBILITIES**

**2014-present**: I have been a researcher at Geology Petroleum Engineering Faculty, HoChiMinh City University of Technology. I have been teaching Basic Geophysics, Seismic Interpretation and Hydrocarbon Exploration subjects in my faculty around 120hours/year. Besides, I join a project in CARE-Lab with Dr. Descloitres, Dr Tu, Dr. Phong to study groundwater using the geophysical method in the South of Vietnam.

**2013** Internship in industrial environment, at CuuLong JOC during 2 months. In this time, I learned how to use Kappa software to intepret the Well test data to evaluate the quality of formation.

**2015** Participation, as student, to the School on The Move ASEAN-Japan BUILD-UP Cooperative Education Program at Philippine, Indonesia, Japan. I joined classroom lectures (Geology, Geophysics, Mining, Geothermal, Mineral Processing, Environmental Engineering) duration?

Field Lecture (Garo Quarry, Mori Geothermal Power Plant, Toya Caldera and Usu Volcano Global Geopark, JAPEX Yufutsu oil and gas field, Hokkaido Eco Recycle Systems, Toyoha Mine).

**2018** Participation, as student and teacher, to a Hydrogeophysics Course on ERT and TDEM methods which was organized by IGE-IRD and Care Rescif. This course was organized in 6 days: first 3 days in class room, then 2 days in the field, 1 day for field interpretation in classroom. . In field trip, I am responsibility for electrical sounding.

**2019** Participation, as student and teacher, to a Hydrogeophysics Course which was organized by IGE-IRD and Care Rescif This course was organized in 5 days: first 2 days in class room, 1 day for campus activities, then 1 days in the field, 1 day for field interpretation in classroom. In this course, I take responsibility as TDEM practices guide.

**2020** PhD candidate at TEU [Doctoral School for Earth, Planetary and Environmental Sciences](https://ed-tue.osug.fr/) Grenoble University

Title thesis: “Evaluation of shallow aquifer resources and vulnerabilities in the South of Vietnam using geophysical resistivity methods”

Abstract: Groundwater uptakes for HCM City needs (30% of the domestic water) as well as agriculture needs in the Saigon River basin and the Mekong delta rely on shallow (0-100m) and deeper (100-300m) aquifers that are thought to be separated by inter-stratifying clay layers with no evidence of their continuity, creating a possible vulnerability to pollutants. Information is therefore required on aquifer geometry and lithology (top and bottom of aquifer including thickness and extent of the hydrostratigraphic unit). Moreover, there is no available information about the contribution of the potentially polluted top aquifer to the Saigon River. Close to the sea in the Mekong delta, saline intrusion occurs. These knowledge gaps reflect a lack of comprehensive information on groundwater resources and related recharge processes. In particular, the question arises: what are the hazards related to the main recharge zones? are they vulnerable to pollution? and how are river-aquifer and aquifer-aquifer relationships affecting water resource vulnerability? Therefore the aim of the Ph.D. project is to contribute to the aquifer knowledge by the application of integrated resistivity methods (Time and Frequency domain electromagnetic soundings, electrical resistivity tomography) (and possibly Magnetic Resonance sounding) for shallow aquifer characterization in the South of Vietnam. The fieldwork will take place in the Cu Chi region, the Mekong delta provinces, as well as an agricultural site in Cambodia.

**PAST PARTICIPATIONS TO PROJECTS RELATED TO EARTH AND ENVIRONMENTAL SCIENCES**

1. **2019 – 2021** *Evaluate the interaction between the Upper-Mid Pleistocene and Lower Pleistocene aquifers using stable isotope methods in Cu Chi, HCM City, Vietnam* 2019 – 2021. I used some geophysical techniques to collect data such as TDEM (time-domain electromagnetic), MRS (magnetic resonance sounding), ERT (electrical resistivity tomography).
2. **2019**: *duration Special System Approach assessing oil in the fractured basement in the White Tiger filed CuuLong basin*. This project, I had responsibility for collection and interpretation geophysical data.
3. **2019-2020**: *Modeling of petroleum system in Cenozoic sediment block 05-1a, Nam Con Son basin, offshore Vietnam*. In this project, I had a responsibility for analysis and interpretation well logging data
4. **2018**: *The formation mechanism of fractured basement system in White Tiger oil field*. This project, I took the responsibility to find out the characteristic of geology in the study area.
5. **2017**: *Tectonic evolution and hydrocarbon potential on the edge of Vietnam's continental shelf*. In this project, I took the responsibility in study geology and geophysical parameters.
6. **2015**: *Invasion characteristics of water into fractured basement reservoir Su Tu Den oil field and solutions for enhancing oil recovery*. In this project, I am accountable for geology and interpretation well log data.

**PUBLICATIONS**

One paper as first authors, seven papers at co-author with colleagues of Faculty, and seven conference (national)

1. Nguyen Xuan Kha, Pham Xuan Son, Hoang Van Quy, **Truong Quoc Thanh**, Luong Bao Minh, Tran Van Xuan 2019. *Validity of geophysics method to determine multi-mineral Model, specific porosity, permeability of basement rock in the Cuu Long basin, Vietnam*, Transylvanian Review, No. 36, 9230-9238, 2019
2. Nguyen Xuan Kha, Pham Xuan Son, Hoang Van Quy, **Truong Quoc Thanh**, Nguyen Tuan, Nguyen Thi Thu Trang, Tran Van Xuan 2019. *Special System Approach to Assessing the Oil Potential in Fractured Basement in the White Tiger Field, Cuu Long Basin, Offshore Vietnam,* Transylvanian Review, Vol XXVII, No. 45, 2019
3. Xuan Tran Van, Chuc Nguyen Dinh, Thanh Truong Quoc, Tuan Nguyen, Minh Luong Bao, Duy Le Duc, 2018. *Depositional environment of the oligocene sedimentary & prediction of sand distribution in south east area, cuu long basin* The 11th VNUHCM University of Science Scientific Conference 2018
4. Binh Kieu Nguyen, Xuan Tran Van, Tien Hoang Dinh, Giang Phan Truong, Huy Tran Nhu, **Thanh Truong Quoc**, Tuan Huynh Tan, Trang Nguyen Thi Nhu, 2018 *Applying seismic attributes on finding the potential of stratigraphic traps in upper oligocene “C”, center part of cuu long basin* The 11th VNUHCM University of Science Scientìic Conference 2018
5. Xuan VTran, Huy NTran, Chuc DNguy, Dang NHng, Kha XNguy, Ngoc BTh, Tuan Nguy, **Thanh QTr**, Minh BLuong, *Petroleum System Modeling in Cenozoic Sediments, Block 05-1a, Nam Con Son Basin,* The 15th Regional Congress on Geology, Minerals and Energy Resources of Southeast Asia-GEOSEA, 2018, Ha Noi - Việt Nam
6. Xuan Van Tran, Tuan Van Nguyen, Tuan Nguyen, Kha Xuan Nguyen, Ngoc Ba Thai, and **Thanh Quoc Truong**, 2018 *Assessing the Impacts of Groundwater Intrusion to Production Efficiency and Proposing Solutions to Enhance Oil Recovery from Fractured Basement Reservoir in SuTuDen Field, Offshore Vietnam*, The IADC/SPE Asia Pacific Drilling Technology Conference held, 27–29 August , 2018, Bangkok - Thailand
7. **Thanh Quoc Truong**, Kha Nguyen Xuan, Dung Thi Nhu Nguyen, Xuan Tran Van, 2018. *Determine ground water in Central highland In Vietnam,* VietNam Journal of Construction, 10-2018, 52, 2018
8. Xuan Tran Van,Thanh Truong Quoc,Tuan Nguyen,Tuan Nguyen Van,Ngoc Thai Ba,Kha Nguyen Xuan,Hoan H Van, 2017. *Assessing the impacts of groundwater intrusion to production efficiency and determine solutions to enhance oil recovery, fractured basement reservoir, Su Tu Den field*, International Conference on Sustainable Groundwater Development, 2017, Ha Noi - Việt Nam
9. Xuan Tran Van, Huy Nhu Tran, Chuc Dinh Nguyen, Tuan Nguyen, Ngoc Ba Thai, Kha Xuan Nguyen, **Thanh Quoc Truong**, Trung Hoang Quang Phi, Minh Bao Luong, 2017, *Petroleum System Modeling in Cenozoic Sediments, Block 05-1a, Nam Con Son Basin, Offshore Vietnam,* Science and technology development journal – Engineering & Technology vol 20 NoK4 2017, doi: <https://doi.org/10.32508/stdj.v20iK4.1123>
10. Chuc Dinh Nguyen, Tu Van Nguyen, Hung Quang Nguyen, Cuong Van Bui, **Thanh Quoc Truon**g, Xuan Van Tran, 2017. *Applying Seismic Stratigraphy Analysis for Assess Upper Oligocene Stratigraphic Traps in Southeastern Cuu Long Basin* Science and technology development journal – Engineering & Technology vol 20 NoK4 2017, doi: <https://doi.org/10.32508/stdj.v20iK4.1112>
11. Binh Kieu Nguyen, Kha Xuan Nguyen, San Ngo Thuong, **Thanh Truong Quoc**, Ngoc Ba Thai, Huy Xuan Nguyen, Xuan Tran Van, 2016. *Evaluate The Geological Structure, Petroleum Potential by Interpretation The 2D Seismic Data of Phu Quoc Basin Science and technology development journal* – Engineering & Technology vol 19 No 1 2016 doi: <https://doi.org/10.32508/stdj.v19i1.568>
12. Huy Tran Nhu, Xuan Tran Van, Kha Nguyen Xuan, Ngoc Ba Thai, **Thanh Quoc Truong**, Man Nguyen Tri Ho, Chuc Dinh Nguyen, Lan Duc Tran, 2016 Main *Favorable factorscreatee Oligocene Formation Become A Petroleum Prospect in South-East Area, Cuu Long Basin,* Science and technology development journal – Engineering & Technology vol 19 No 1 2016 doi: <https://doi.org/10.32508/stdj.v19i1.515>
13. Duc Nguyen Dinh, Tuan Bui Huynh, Minh Luong Chi, Tuan Le Cong, Nhi Nguyen Thi Y, Tin Kha Bao, **Thanh Truong Quoc**, Kha Nguyen Xuan, 2016. *Detecting hydrocarbon by analysing cross plot AVO* The 10th VNUHCM University of Science Scientific Conference 2016
14. Kha Nguyen Xuan, **Thanh Truong Quoc**, Huy Nguyen Xuan, Xuan Tran Van, Son Pham Xuan, Quy Hoang Van, 2014. *Determining porosity distribution in fractured basement rock of White Tiger oilfield by logging data,* Science and technology development journal – Engineering & Technology vol 17 No 3 2014
15. Thai Ba Ngoc, Tran Nhu Huy, Tran Van Xuan, **Truong Quoc Thanh**, 2013 *Interpretation of gas well testing applied to well A field X Cuu Long basin,* The 13th VNUHCM University of Technology Conference 2013