

Information on Doctoral thesis of Fellows Nguyen Huu Huan

1. Full name: Nguyen Huu Huan
2. Sex: Male
3. Date of birth: 29 January 1972
4. Place of birth: Hanoi
5. Admission decision number: 5429/QĐ-SĐH, dated 30/10/2008 by the Director of the Hanoi National University
6. Changes in academic process: 963/QĐ-SĐH, dated 06/8/2009 by the Rector of VNU University of Science, on the adjustment of the supervisors of doctoral student.
7. Official thesis title: Study on the formations and emissions of hydrogen sulfide in the To Lich river.
8. Major: Soil and Water Environment
9. Code: 62 85 02 02
10. Supervisors: Assoc.Prof.Dr.Sc. Nguyen Xuan Hai;

Assoc.Prof.Dr Tran Yem

11. Summary of the new findings of the thesis

- The results of the thesis were that the study has firstly identified some characteristics of H₂S emission rates from river water, the average residual time of H₂S in water, average residual time of H₂S in the air and altitude affect in the climate condition of Vietnam.
- The thesis is also the first study to apply and calibrate the METI-LIS model for line source as a cold source, with the low height of emissions source in Vietnam.
- Besides, the thesis is also the first study to build the forecasting models of sulfide generation in wastewater based on key parameters of water quality in the drainage river (open channel) in accordance with practical conditions in Vietnam.

12. Practical applicability, if any:

- The thesis has designed, improved the sampling equipment for monitoring the rate of H₂S emissions from the surface of water in accordance with the actual conditions in Vietnam, thereby perfected the ability to apply the sampling monitoring method for the H₂S emissions rate from the water, and opened

up the opportunities for the application in monitoring the rate of emission of gases from the soil environment and wetlands.

- The thesis also contributed in clarifying the scientific basis and practical significance of control measures of H₂S pollution from wastewater system through the determination of the optimal threshold value of Eh for the generation of sulfide in wastewater. Then, the thesis proposed the forced aeration measures to control the Eh to minimize the possibility of sulfide generation, and improved the water quality in the drainage river system in Hanoi.

13. Further research directions, if any

14. Thesis-related publications:

[1] Nguyen Xuan Hai, **Nguyen Huu Huan** (2010), "Study on formulation ability of H₂S from To Lich river water" *Science and Technology journal of Agriculture and Rural development* 1, pp. 28-33.

[2] **Nguyen Hũu Huan**, Nguyen Xuan Hai, Nguyen Nhan Tuan, Tran Yem (2010), "Rapid assessment of potential emission of green house gases H₂S in Luangprabang hydropower project", *Journal of Science of Vietnam National University, Hanoi, Natural sciences and technology* 26(5S), pp. 762-766.

[3] **Nguyen Huu Huan**, Nguyen Xuan Hai, Tran Yem (2012), "Application of Meti-lis model for estimating H₂S emission from To Lich river", *Journal of Science of Vietnam National University, Hanoi, Natural sciences and technology* 28(4S), pp. 95-102.

[4] **Nguyen Huu Huan**, Nguyen Xuan Hai, Tran Yem, Nguyen Nhan Tuan (2012), "Meti-Lis model to estimate H₂S emission rates from Tolich river, Vietnam", *ARPJ Journal of Engineering and Applied Sciences* 7(11), pp. 1473-1479.

[5] **Nguyen Huu Huan**, Nguyen Xuan Hai, Tran Yem, Nguyen Nhan Tuan (2013), "Factors effect to the sunfua generation in the Tolich river, Vietnam", *ARPJ Journal of Engineering and Applied Sciences* 8(3), pp. 190-199.

[6] Nguyen Thi Bich Nguyet, Nguyen Xuan Hai, **Nguyen Huu Huan** (2013), "Effect of irrigation regimes and fertilizers to Eh in the paddy soil of the Red river delta, Vietnam", *ARPJ Journal of Agricultural and Biological Science* 8(3), pp. 201-205.