

## Information on Doctoral thesis of Fellows Pham Thi Viet Anh

Official thesis title: Research and integrated assessment of air quality in the urban area of Hanoi.

1. Full name: PHAM THI VIET ANH

2. Sex: Female

3. Date of birth: 23<sup>rd</sup> March, 1971

4. Place of birth: Hanoi

5. Admission decision number: Decision 2259/SĐH, dated 07/12/2006 by the President of Vietnam National University, Hanoi.

6. Changes in academic process:

- Decision No 3215/QĐ-ĐT dated 03/10/2012 by the President of Vietnam National University, Hanoi on giving permission for PhD Candidate to pause the study.

- Document No 3597/ĐHQGHN-ĐT dated 10/10/2013 by the President of Vietnam National University, Hanoi on allowing PhD Candidate to resume the programme.

- Decision No 4654/ĐHQGHN-ĐT dated 20/12/2013 by the President of Vietnam National University, Hanoi on extending the deadline of defending the Doctoral thesis.

7. Official thesis title: Research and integrated assessment of air quality in the urban area of Hanoi.

8. Major: Air Environment

9. Code: 62 85 02 10

10. Supervisors: Ass.Prof.Dr. Hoang Xuan Co

11. Summary of the new findings of the thesis

- Factors which are improvable for air quality (tree cover and water surface) have been quantitatively considered in air quality assessment in Vietnam.

- This is the first time an integrated assessment process for air quality with consideration of combined effects of pollution factors and pollution mitigation factors has been developed.

- Combining methods of environmental modeling, GIS tool and GIS based map overlaying was used to develop an integrated air quality index and an air quality map for the urban area of Hanoi.

12. Practical applicability, if any:

- Contributing to open a new research orientation on integrated assessment of ambient air quality where effectively mitigating air pollution factors as tree cover and water surface can be considered. .
- Providing a scientific basis for tree cover and water surface reservation as a pollution mitigation measure for a better public health.
- The proposed integrated assessment process could be applied in dealing with some practical air quality problems such as: EIA, environmental planning, environmental monitoring network planning, and spatial planning for distribution of industrial isolation zones, pollution warning and supervising, air quality management for Hanoi as well as other resembling urban areas.

13. Further research directions, if any

- Researching the scientific basis for designing and selecting areas which are suitable for planting trees to improve air quality.
- Evaluating particulate matter filtration capacity of trees in Hanoi.

14. Thesis-related publications:

- Pham Thi Viet Anh, Hoang Xuan Co (2006), "Establishment of a method for integrated assessment of air quality in urban areas (case study of Hanoi), *VNU Journal of Science, Natural Sciences and Technology* Vol. 22 (3B), pp. 80-84.
- Pham Thi Viet Anh (2008), "The initial results of integrated assessment of air quality in Thanh Tri dist., Hanoi", *VNU Journal of Science, Natural Sciences and Technology* Vol. 24 (1S), pp. 1-5.
- Pham Ngoc Ho, Duong Ngoc Bach, Pham Thi Viet Anh, Nguyen Khac Long (2008), "Applying fixed box model to calculate concentration variable with time of SO<sub>2</sub>, NO<sub>2</sub> and PM<sub>10</sub> in Thanh Xuan District, Hanoi", *VNU Journal of Science, Natural Sciences and Technology* Vol. 24 (1S), pp. 87-95.
- Pham Thi Viet Anh, Hoang Xuan Co, Pham Thu Ha, Can Anh Tuan (2010), "Study on the application of ISC3 model in assessment of air pollution emitted from industrial sources for Hanoi area", *VNU Journal of Science, Natural Sciences and Technology* Vol. 26 (5S), pp. 673-678.
- Pham Thi Thu Ha, Pham Thi Viet Anh, Can Anh Tuan (2010), "Assessment of acid rain state in some areas belonging to the Northern key economic region in Viet Nam (Ha Noi, Hai Phong, Hai Duong, Quang Ninh)", *VNU Journal of Science, Natural Sciences and Technology*, Vol. 26 (5S), pp. 710-719.
- Can Anh Tuan, Hoang Xuan Co, Pham Thi Viet Anh, Pham Thi Thu Ha (2011), "Some issues of air pollution damage and compensation", *Vietnam Environment Administration Magazine* (9), pp. 48-52.

- Pham Thi Viet Anh, Pham Thi Thu Ha, Nguyen Thi Thanh Nhan (2011), "Assessing the potential of the effects of air pollution on human health in Hai Ba Trung and Ba Dinh districts", *VNU Journal of Science, Natural Sciences and Technology* Vol. 27 (5S), pp.282-291.
- Pham Thi Viet Anh, Nguyen Thuy Huong (2012), "Using monitored data of automatic air monitoring station and air quality index for assessing air quality of Ha Noi's urban area, *VNU Journal of Science, Natural Sciences and Technology* Vol. 28 (4S), pp. 1-9.
- Pham Thi Viet Anh (2014), "The role of trees and water in the classification of air quality in Hanoi City", *VNU Journal of Science, Natural Sciences and Technology* Vol. 30 (4S), pp. 1-7.