

Information on Doctoral thesis of Fellows Trinh Thi Minh Hang

1. Full name: Trinh Thi Minh Hang
2. Sex: Female
3. Date of birth: 24 /4/1979
4. Place of birth: Hanoi
5. Admission decision number: No. 1691/QĐ-SHĐ dated 07/05/2009 signed by President of Vietnam National University, Hanoi.
6. Changes in academic process:
 - Change of official title of doctoral thesis as decision No. 679/QĐ-SĐH-TN dated 1st June 2010 signed by Rector of VNU, Hanoi University of Sciences.
 - Delay time of study as decision No.3754/QĐ-KHTN-CTSV dated 08 th October 2012 signed by Rector of VNU, Hanoi University of Sciences.
7. Official thesis title: Using variational method for research the existence of weak solutions of Boundary Problem for elliptics equations
8. Major: Differential and Integral Equations
9. Code: 62460103
10. Supervisor: Assoc.Prof.Dr. Hoang Quoc Toan
11. Summary of the new findings of the thesis:
 - Using the weakly version of Mountain pass (introduced by Duong Minh Duc) to prove that the Neumann Problem for quasilinear elliptic equation involving p -Laplacian in an unbounded domain has at least one weakly solution nontrivial in subspace H of $W^{1,p}(\Omega)$
 - Prove that the Neumann Problem for a system of semilinear elliptic equation in an unbounded domain has at least one weak solution non-trivial in the subspace G of $H^1(\Omega) \times H^1(\Omega)$.
 - Prove that the Neumann Problem for system equation for (p,q) -Laplacian with boundary condition nonlinearity has no positive solution or has two distinct positive solutions, it depends value of parameter λ .
 - Without the Ambrosetti and Rabinowitz condition, replacing it by the other hypothesis to prove that the Dirichlet problem for semilinear elliptic equation has at least one solution non-trivial.

12. Practical applicability: We study the existence of solution of the Problem of Operator $div(a(x, \nabla u))$ in Partial Differential Equation, which has many applications in science natural theories and real life.

13. Further research directions: The results and method researched in Doctoral thesis can be extend for class of equation having exponential $p(x)$ - Laplacian, equation having singular coefficient in a bounded or unbounded domain.

14. Thesis- related publications:

[1].Trinh Thi Minh Hang, Hoang Quoc Toan, (2009)" Non-existence of and multiplicity of positive solution for quasilinear elliptic problems in bounded domain", *Acta Mathematica Vietnamica*, **34**(2), pp. 173-182.

[2].Trinh Thi Minh Hang, Hoang Quoc Toan, (2011)" On existence of weak solutions of Neumann problem for quasilinear elliptic equations involving p -Laplacian in an unbounded domain", *Bull. Korean. Math.Soc.*, **48**(6), pp.1169-1182, (T'p chÝ ISI).

[3].Trinh Thi Minh Hang, Hoang Quoc Toan, (2012)" On existence of weak solutions of Neumann problem for a system of semilinear elliptic equation in an unbounded domain", *Acta Mathematica Vietnamica*, **37**(1), pp.137-147.

[4].Trinh Thi Minh Hang, Hoang Quoc Toan, (2012)" Existence of weak non-negative solution for a class of nonuniformly boundary value problem", *Bull. Korean. Math.Soc.*, **49**(4), pp. 737-748, (T'p chÝ ISI).

[5].Trinh Thi Minh Hang, Hoang Quoc Toan, (2014)" On some semilinear nonuniformly elliptic problems with subcritical nonlinearity without the Ambrosetti and Rabinowitz condition", *Vienam Journal of Mathematics*, **42**(1), pp.1-15.