

# Curriculum Vita and Publication list of Prof. PhD. DSc. Do Ngoc Diep

September 4, 2010

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**Name in Full:** Do Ngoc Diep (Do, Ngoc Diep)  
Date and Place of Birth: August 10, 1950; Hung Yen, Vietnam  
Title Degrees: Full Professor (1996) Ph. D. (1977) and Doctor of Sciences (1995)  
Citizenship: Vietnamese  
Position: Senior Researcher Head (1984-2000, 2007-2010)  
Dept. of Topology and Geometry  
**Editors:** Editor (1996-2000). *Vietnam Journal of Mathematics*  
Deputy Editor in Chief (2008-). *Vietnam Journal of Mathematics*  
: Deputy Editor in Chief (1998-2000). *Acta Mathematica Vietnamica*  
Editor. *Acta Mathematica Vietnamica*  
Editor. *Scientific Journals International*  
Editor. *International Journal of Mathematical Modeling and Numerical Optimisation* (2010)  
**Specific Field of Work:** Quantization and KK-Theory invariants of Group C\*-Algebras and Quantum Groups  
Permanent Address: **Institute of Mathematics, Vietnam Academy of Science and Technology**, 18 Hoang Quoc Viet Road, Cau Giay District, 10307 Hanoi, Vietnam  
Phone: +84-4-7563474, ext. 103  
Fax: +84-4-7564303  
Email: dndiep@math.ac.vn  
Email: dndiepg@gmail.com  
Country: Vietnam  
Current Address: **Institute of Mathematics, Vietnam Academy of Science and Technology**, 18 Hoang Quoc Viet Road, Cau Giay District, 10307 Hanoi, Vietnam  
Phone: +84-4-7563474, ext. 103  
Fax: +84-4-7564303  
Email: dndiep@math.ac.vn

## 2 Academic Degrees and Titles

Degrees and Titles	Year	Institution
High School	1968	Hanoi University Special Mathematical School
M.S./M.A.	1974	Moscow University
Ph.D.	1977	Moscow University
Professor	1991	Education Ministry of Vietnam
DS.c.(Habilitation)	1995	Institute of mathematics NCST of Vietnam
Full Professor	1996	Education Ministry of Vietnam

## 3 Former and Present Professional Positions and Fellowships

Date	Title	Place
1978 - ...	Membership	Institute of Mathematics
1981 1984	Deputy Head	Department of Topology and Geometry; Inst. Math. NCST of Vietnam
Nov. 1983 Dec. 1983	IHES Fellow	Institut des Hautes Etudes (IHES); Bures s/Yvettes France
1984 1986	Secretary	Scientific Council; Inst. Math., NCST of Vietnam
1984 2000	Head	Department of Topology and Geometry; Inst. Math. NCST of Vietnam
Oct.1987 Nov. 1989	Visiting Scientist	Moscow University
1991	Professor	Education Ministry of Vietnam
Aug.1991 Apr. 1993	AvH Fellowship	Alexander von Humboldt Fellow Bielefeld University and Heidelberg University
May 1993 Oct. 1993	C3 Professor	Techische Hochschule Darmstadt and Heidelberg University
1996-...	Full Professor	Education Ministry of Vietnam
1996- ...	Senior researcher	Institute of Math., NCST of Vietnam
Aug. 1996 Oct. 1996	Visiting Professor	International Center for Theoretical Physics (ICTP), Trieste, Italy
Nov. 1996 Jan. 1997	Visiting Professor	Univ. Paris, Nantes, Toulouse, Marseilles, Nice ; France
Aug. 1997 Sept. 1997	Visiting Professor	International Center for Theoretical Physics (ICTP), Trieste, Italy
Nov. 1997 March 1998	Visiting Professor	Diliman University of the Philippines
June. 1998 Sept.1998	Visiting Professor	International Center for Theoretical Physics (ICTP), Trieste, Italy
August 1999 May 2001	Full professor	appointment Department of Mathematics, The University of Iowa, USA

June 2001 Sep. 2001	Visiting Professor	International Center for Theoretical Physics (ICTP), Trieste, Italy
July 2004 August 2004	Visiting Professor	International Center for Theoretical Physics (ICTP), Trieste, Italy
Nov. 2006 Dec. 2006	Visiting Professor	Diliman University of The Philippines
June 2007 July 2007	Visiting Professor	International Center for Theoretical Physics (ICTP), Trieste, Italy

## 4 Teaching Experiences

<b>Date</b>	<b>Place &amp; Course</b>
1978/79 :	Hanoi Ingeneer Institute, Ground course: Analysis I: calculus
1979/80 :	Hanoi University, Graduate course: Representation Theory
1986/87 :	Hue University, Ground course: Differential Geometry
1986/87 :	Hue University, Graduate course: Differential Supergeometry
1986/87 :	Hue University, Graduate course: Lie Groups and Lie Algebras
1994/95 :	Vinh University, Master course: Lie Groups and Lie Algebras
1994/95 :	Vinh University, Master course: Representations Theory of Compact Lie Groups
1996/97 :	Inst. Of Math., NCST of Vietnam Master course: Differential Geometry
1997/98 :	UP Diliman, The Philippines Master course: Representations Theory
1997/98 :	UP Diliman, the Philippines Master course: Diferential Geometryi
1997/98 :	Vinh University, Master course: Representations Theory
1997/98 :	Vinh University, Master course: Lie Groups and Lie Algebras
1999-2001:	Iowa Univ. USA, Undergraduate courses: Linear Algebra, Analysis, Linear Analysis for Ingeneering, etc....
2001/2002:	HoChiMinh Univ. of Education, Master course: Fibered spaces and K-theory
2001/2002:	ThaiNguyen Univ. of Education, Master course: Differential Geometry
2005/2006:	ThaiNguyen Univ., Undergraduate course: Differential Geometry
2001/2002:	Institute of Math. VAST, Master course: Differential Geometry
2001/2002	Inst. Of Math., Master course: Lie groups and Lie algebras
2003/2004	University of Natl. Sci., Hanoi VNU, Master course: Homological Algebra
2004/2005	Univ. of Natl. Sci., Hanoi VNU, Master course: Harmonic Analysis
2005/2006	Univ. of Natl. Sci., Hanoi VNU, Master course: Lie Groups
2005/2006	Univ. of Natl. Sci., Hanoi VNU, Master course: K-theory
2005/2006	Qui Nhon Univ. of Education, Undergraduate course: Differential Geometry
2006/2007	Univ. of Natl. Sci., Hanoi VNU, Master course: Lie Groups and Lie algebras
2006/2007	Univ. Natl. Sci., Hanoi VNU, Master course: Harmonic analysis
2007/2008	Univ. of Natl. Sci., Hanoi VNU, Master course: Harmonic analysis
2007/2008	Univ. of Natl. Sci., Hanoi VNU, Master course: Lie groups and Lie algebras
2007/2008	Univ. of Natl. Sci., Hanoi VNU, Undergraduate course: Advanced topology
2007/2008	Univ. of Natl. Sci., Hanoi VNU, Undergraduate course for Honor Student Program: Analysis I
2007/2008	Univ. of Natl. Sci., Hanoi VNU, Undergraduate course for Honor Student Program: Analysis IV
2008/2009	Univ. of Nat. Sci., Hanoi VNU, Undergraduate course "Lie groups and Lie algebras
2009/2010	Univ. of Nat. Sci. Hanoi VNU, Undergraduate course for Advanced Program Calculus I-III
2010/2011	Inst. Math. Hanoi, Graduate course: Algebra.
2010/2011	Univ. of Nat. Sci. Hanoi VNU, Undergraduate course for Advanced Program Calculus I-III

## 5 Supervision for Ph. D. Theses

Date	Place	PhD Student
1984	Institute of Math., NCST of Vietnam	Ho Huu Viet
1990	Hue University Vietnam	Le Anh Vu
1993	Hue University	Tran Vui
1995	Hue University	Tran Dao Dong
1999	Institute of Math., NCST of Vietnam	Nguyen Van Thu'
2001	Institute of Math., NCST of Vietnam	Nguyen Viet Hai
2001	UP Diliman, the Philippines	Job Nable

## 6 Books and Theses

[1977]	1. Do Ngoc Diep, <i>Applications of the homological K-functor Ext to studying the structure of the C*-algebras of some solvable Lie groups</i> , <b>Ph. D. Thesis</b> , Moscow. Univ. 1977.
[1995]	2. Do Ngoc Diep, <i>Non-commutative geometry methods for group algebras</i> , <b>DSc. Dissertation</b> (in Vietnamese), Institute of Math., NCST of Vietnam, Hanoi, 1995, 147 pp.
[1999]	3. Do Ngoc Diep, <i>Non-commutative Geometry Methods for group C*-algebras</i> , <b>Monograph</b> , Chapman & Hall/CRC Mathematics Research Notes Series, vol. 416, 1999.
[2010]	4. Do Ngoc Diep, Nong Quoc Chinh, <i>Course of Differential Geometry</i> , (in Vietnamese) NXB DHQG HN, 2010.

## 7 Publication List

[75a]	1. Do Ngoc Diep, <i>The structure of the group <math>C^*</math>-algebra of the group of affine transformations of the straight line</i> , Funkt. Anal. i Priloz., 9(1975), No 1, 63– 64.
[77a]	2. Do Ngoc Diep, <i>Applications of the homological <math>K</math>-functor Ext to studying the structure of the <math>C^*</math>-algebras of some solvable Lie groups</i> , Ph. D. Thesis, Moscow. Univ. 1977.
[78a]	3. Do Ngoc Diep, <i>The structure of <math>C^*</math>-algebras of type I</i> , Vestnik Moscow. Univ., 1978, No 2, 81 –87.
[80a]	4. Do Ngoc Diep, <i>Construction des représentations unitaires par les <math>K</math>-orbites et quantification</i> , C. R. Acad. Paris, Série A, 291(1980), 295–298.
[80b]	5. Do Ngoc Diep, <i>Multidimensional quantization. I, The general construction</i> , Acta Math. Vietnam., 5(1980), No 2, 42-55.
[80c]	6. Do Ngoc Diep, <i>Methods of algebraic topology in harmonic analysis, Announcement of research results</i> (in Vietnamese), Hanoi, 1980.
[81a]	7. Do Ngoc Diep, Ho Huu Viet and Vuong Manh Son, <i>Sur la structure des <math>C^*</math>-algèbres d'une classe de groupes de Lie</i> Acta math. Vietnam. 8(1983), No. 2, 90-125.
[81b]	8. Do Ngoc Diep, <i>Functor of projective limit in Banach categories</i> , J. of Math. ( in Vietnamese ), 9(1981), No. 1, 16-20.
[82a]	9. Do Ngoc Diep, <i>Multidimensional quantization II. The covariant derivation</i> , Acta Math. Vietnam., 7(1982), No. 1, 87-93.
[82b]	10. Do Ngoc Diep, <i>Quantification des systéemes hamiltoniens à l'action plate d'un groupe de Lie</i> , C. R. Acad. Sci. Paris, Série I, 295(1982), 345–348.
[82c]	11. Do Ngoc Diep, <i>Idéaux de type compact associés aux représentations irréductibles induites par des représentations linéaires de sous-groupes invariants</i> , C. R. Acad. Sci. Paris, Série I, 294(1982), 189–192.
[83a]	12. Do Ngoc Diep, <i>Quelques aspects topologiques en analyse harmonique</i> , Acta Math. Vietnam., 8(1983), No 2, 35-131.
[83b]	13. Do Ngoc Diep, <i>Quantification multidimensionnelle III. Applications: Sur les repr'esentations irré'ductibles de groupes de diffe'omorphismes</i> , Acta Math. Vietnam., 8(1983), No. 1, 59-72.
[83c]	14. Do Ngoc Diep, <i>Geometric quantization</i> , J. Math. ( in Vietnamese ), 11(1983), No 3, 1-4.
[84a]	15. Do Ngoc Diep, <i><math>C^*</math>-complexes de Fredholm I.</i> , Preprint IHES/M/83/53 ; Acta Math. Vietnam., 9(1984), No. 1, 121-130.
[84b]	16. Do ngoc Diep, <i><math>C^*</math>-complexes de Fredholm II.</i> , Preprint IHES/M/83/64 ; Acta Math. Vietnam., 9(1984), No. 2, 193-199.

[86a]	17. Do Ngoc Diep, <i>The Borel-Serre compactification for Langlands type discrete groups</i> , Preprint Series, No. 28, Inst. Math. Hanoi, 1986.
[86b]	18. Do Ngoc Diep, <i>Multidimensional quantization and the generic representations</i> , Preprint Series, Inst. Math. Hanoi, No. 29, 1986.
[86c]	19. Do Ngoc Diep, <i>Multidimensional quantization of the Hamiltonian systems with supersymmetry</i> , Preprint series, Inst. Math. Hanoi, No. 31, 1986.
[86d]	20. Do Ngoc Diep, <i>Multidimensional quantization and Fourier integral operators</i> , Preprint, Inst. Math. Hanoi, 1986.
[87a]	21. Do Ngoc Diep, <i>On the Langlands type discrete groups I. The Borel-Serre compactification</i> , Acta Math. Vietnam., 12(1987), No. 1, 41-54.
[88a]	22. Do Ngoc Diep, <i>Multidimensional quantization IV. The generic representations</i> , Acta Math. Vietnam., 13(1988), 67-72.
[90a]	23. Do Ngoc Diep, <i>Multidimensional quantization V. The mechanical systems with supersymmetry</i> , Acta Math. Vietnam., 15(1990), No 1, 11-40.
[91a]	24. Do Ngoc Diep, <i>On the Langlands type discrete groups II. The theory of Eisenstein series</i> , Acta Math. Vietnam., 16(1991), no 1, 77-90.
[92a]	25. Do Ngoc Diep, <i>Construction et reduction of the K-theory invariant Index <math>C^*(G)</math> of group <math>C^*</math>-algebras</i> , Sonderforschungsbereich 343 "Diskrete Strukturen in der Mathematik", Uni Bielefeld, 92-015(1992), I.1-I.10.
[92b]	26. Do Ngoc Diep, <i>Discrete series for loop groups I</i> , Sonderforschungsbereich 343 "Diskrete Strukturen in der Mathematik", Uni Bielefeld 92-015(1992), IV.1-IV.16.
[92c]	27. Do Ngoc Diep, <i>On the Langlands type discrete groups III. The continuous cohomology</i> , Sonderforschungsbereich 343 "Diskrete Strukturen in der Mathematik", 92-015(1992), Uni Bielefeld, III.1-III.14.
[92d]	28. Do Ngoc Diep, <i>Multidimensional quantization and Fourier integral operators</i> , Forschungsgruppe "Nichtkommutative Geometrie und Topologie", Math. Inst. Uni Heidelberg, No 52(1992), 1-17.
[92e]	29. Do Ngoc Diep, <i>Construction and reduction of the K-theory invariant Index <math>C^*(G)</math> of group <math>C^*</math>-algebras</i> , Preprint 1992.
[93a]	30. Do Ngoc Diep, <i>A survey of noncommutative geometry methods for group algebras</i> , J. of Lie Theory (then Seminar Sophus Lie), 3(1993), 149-176.
[93b]	31. Do Ngoc Diep, <i>Vanishing theorem for representations with regular lowest weight of loop groups</i> , Forschungsgruppe "Nichtkommutative Geometrie und Topologie", Uni Heidelberg, 75(1993), 1-21.
[95a]	32. Do Ngoc Diep, <i>Non-commutative geometry methods for group algebras</i> , DSci. Dissertation (in Vietnamese), Institute of Math., NCST of Vietnam, Hanoi, 1995, 147 pp.
[95b]	33. Do Ngoc Diep, <i>Multidimensional quantization and degenerate principal series</i> , Vietnam J. of Math., 23(1995), 127-132.
[96a]	34. Do Ngoc Diep, <i>Non-commutative Geometry Methods for Group <math>C^*</math>-algebras</i> , Monograph, Chapman & Hall/CRC Mathematics Research Notes Series, vol. 416, 1999.

[96b]	35. Do Ngoc Diep and Nguyen Van Thu', <i>Entire homology of non-commutative de Rham currents</i> , ICTP IC/96/214; Publications of Center of Functional Analysis and Complex Analysis, Hanoi-City Vietnam National University; <a href="http://www.math.uiuc.edu/K-theory/0227">http://www.math.uiuc.edu/K-theory/0227</a> .
[97a]	36. Do Ngoc Diep and Nguyen Van Thu, <i>Homotopy invariance of entire current periodic cyclic homology</i> , Vietnam J. of Math., 25(1997), No 2, 211-228.
[97b]	37. Do Ngoc Diep and Truong Chi Trung, <i>A realisation of degenerate principal series representations of symplectic groups</i> , East West Journal of Mathematics, 1(1999), No 2, 117-130.
[97c]	38. Do Ngoc Diep, Aderemi O. Kuku and Nguyen Quoc Tho, <i>Non-commutative Chern characters for compact Lie group <math>C^*</math>-algebras</i> K-Theory, 17(2) (July 1999), 195-208.
[98a]	39. Do Ngoc Diep, <i>Witten-Jeffrey-Kirwan localization formula for reduction at regular co-adjoint orbits</i> , Matimyas Matematika, Special Issue, August 1998, Proceedings " International Conference on Inverse Problems and Applications", February 23-27, 1998, 93-108.
[ 98b]	40. Do Ngoc Diep, Aderemi O. Kuku and Nguyen Quoc Tho, <i>Non-commutative Chern characters for compact quantum groups</i> , J. of Algebra 226(2000), 311–331.
[99a]	41. Do Ngoc Diep, Phung Ho Hai and Aderemi O. Kuku, <i>Compact quantum group <math>C^*</math>-algebras as Hopf algebras with approximate unit</i> , arXiv:math.QA/9904175.
[99b]	42. Do Ngoc Diep and Nguyen Viet Hai, <i>Quantum half-plane via deformation quantization</i> , Contributions to Algebra and Geometry, 42(2001), 407–417.
[99c]	43. Do Ngoc Diep and Nguyen Viet Hai, <i>Quantum co-adjoint orbits of the group of affine transformations of the complex line</i> , Contributions to Algebra and Geometry, 42(2001), 419–430.
[00a]	44. Do Ngoc Diep, <i>Quantum strata of coadjoint orbits</i> , arXiv:math.QA/0003100.
[00b]	45. Do Ngoc Diep, <i>A survey of noncommutative Chern characters</i> , arXiv:math.QA/ 0003108.
[01a]	46. Do Ngoc Diep, <i>Quantized algebras of functions on affine Hecke algebras</i> , arXiv:math.QA/ 0101015; Invited talk at the International Conference " Abstract and Applied Analysis and Application II", Quy Nhon, Vietnam, July 13-17, 2004.
[01b]	47. Do Ngoc Diep and Aderemi O. Kuku, <i>Noncommutative Chern-Connes characters of some noncompact quantum algebras</i> , arXiv:math.QA/ 0109042.
[02a]	48. Do Ngoc Diep, <i>Hexagons for noncommutative Serre fibrations</i> , arXiv:math.QA/ 0211048.
[02b]	49. Do Ngoc Diep, <i>Spectral sequences for noncommutative Serre fibrations</i> , arXiv:math.QA/ 0211047.



[02c]	50. Do Ngoc Diep, <i>Riemann-Roch Theorem and the index theorem in noncommutative geometry</i> , Invited talk at the International IMC-2002 Satellite Conference "Abstract and Applied Analysis and Application", Hanoi, Vietnam, August 13-17, 20002; arXiv:math.QA/0211076.
[03a]	51. Do Ngoc Diep, <i>Graded Cech cohomology in noncommutative geometry</i> ; Invited talk at the International Conference "Abstract and Applied Analysis and Application II", Quy Nhon, Vietnam, July 13-17, 20004.
[04a]	52. Do Ngoc Diep, <i>Noncommutative Chern-Connes characters of <math>C^*</math>-algebras of noncompact quantum normalizer of <math>SU(1,1)</math> in <math>SL(2,C)</math></i> , Intl. J. of Math. 15(2004), No 4, 361-367.
[04b]	53. Do Ngoc Diep, <i>Noncommutative spherical tight frames in finitely generated Hilbert <math>C^*</math>-modules</i> , arXiv:math.KT/ 0409451, pp. 9.
[04c]	54. Do Ngoc Diep, <i>Quantum computer and related mathematical structures</i> , Journal of Math. Applications, (in Vietnamese), 2(2004), No 1, 77-92.
[05a]	55. Do Ngoc Diep and Do Hoang Giang, <i>Quantum Gauss-Jordan elimination</i> , arXiv:quant-ph/ 0511063.
[05b]	56. Do Ngoc Diep and Do Hoang Giang, <i>Accounting principles are simulated on quantum computers</i> , arXiv:quant-ph/ 0511062.
[06a]	57. Do Ngoc Diep, Dao Vong Duc, Ha Vinh Tan and Nguyen Ai Viet, <i>Tetrad as fundamental concept in generally covariant unified theory</i> , Invited talk, Intl. School-Conference GAP4 "Geometry and Physics IV: Aspects of Quantization", June 12-17,2006, Hanoi, Vietnam.
[06b]	58. Do Ngoc Diep, Dao Vong Duc, Ha Vinh Tan and Nguyen Ai Viet, <i>Moving frames and fiber bundles over the <math>(3+1)D</math> space-time</i> , Invited talk, Intl. School-Conference GAP4 "Geometry and Physics IV: Aspects of Quantization", June 12-17,2006, Hanoi, Vietnam; Comm. in Physics, 17(2007), 36-46.
[07a]	59. Do Ngoc Diep, Dao Vong Duc, Ha Vinh Tan and Nguyen Ai Viet, <i>Convolution-Wedge Product of Fields in Anti-Symmetric Metric Regime Is Defined Through Electric-Magnetic Duality and Mirror Symmetry</i> , Preprint 2007/08/02 , IOM, VAST, 2007; Communication in Phys.
[07b]	60. Do Ngoc Diep, <i>Category of Noncommutative CW Complexes</i> , arXiv:0707.0191, 2007
[07c]	61. Do Ngoc Diep, <i>Category of Noncommutative CW Complexes II</i> , arXiv:math/0211048.
[07d]	62. Do Ngoc Diep, <i>Category of Noncommutative CW Complexes III</i> , arXiv:math/0211047.
[08a]	63. Do Ngoc Diep, Dao Vong Duc, Ha Vinh Tan and Nguyen Ai Viet, <i>Convolution wedge product of fields</i> , Comm. in Physics, 18(2008), No 2, 111-118,
[08b]	64. Do Ngoc Diep, Dao Vong Duc, Ha Vinh Tan and Nguyen Ai Viet, <i>Extended Kaluza-Klein unification model with mixed compactification</i> , Comm. in Physics, 18(2008), No 3, 129-135.
[08c]	65. Huynh Van Duc, Bui Doan Khanh, Do Ngoc Diep, <i>Pattern Search Quantum Algorithms</i> , Addendum Contributions to 2008 IEEE International Conference RIVF, July 13-17, 2008, Ho Chi Minh City, Vietnam, pp 36-40
[08d]	66 Huynh Van Duc, Bui Doan Khanh, Do Ngoc Diep, <i>Quantum Algorithm for Searching Patterns</i> , Journal of Science and Technology, Vol46, N5A, 2008, pp 67-78.

[09a]	67. Do Ngoc Diep, Ha Dai Ton, <i>On the electric-magnetic Goddard-Olive-Nuyts duality pair of groups</i> , Vietnam J. Math., 37(2009), No 4,457-462.
[09b]	68. Do Ngoc Diep, <i>A quantization procedure of fields based on Geometric Langlands Correspondence</i> , Intl. J. Math, Math,. Sci., 2009, 1-14, doi:10.1155/2009/749631.
[10a]	69. Do Ngoc Diep, Huynh Van Duc, Bui Doan Khanh, <i>An algebraic approach to building quantum algorithms</i> (in Vietnamese), Journal of Math. Appl. (Tap chi Ung dung Toan hoc), VII(2010), No 1, 093-110.
[10b]	70. Do Ngoc Diep, <i>Quantization procedure of fields and automorphic representations</i> , to appear.
[10c]	71. Do Ngoc Diep, Nong Quoc Chinh, <i>Course of Differential Geometry</i> , NXB DHQG HN, 2010.