



**SOUTH EAST ASIAN MATHEMATICAL SOCIETY**

## **SEAMS SCHOOL PROPOSAL**

### **Complex Analysis and Geometry**

Hanoi-Vietnam

05/4/2017-16/4/2017

**Organized by**

Hanoi Institute of Mathematics, VAST

**2017**

## SEAMS SCHOOL PROPOSAL

1. The proposed title, place and dates of the SEAMS School

Title of the SEAMS School :	Complex Analysis and Geometry
Place :	Hanoi Institute of Mathematic, VAST, Vietnam
Dates :	05/4/2017-16/4/2017

2. Organizers (write the names, place of work, and email address, if you have more than two then add the necessary lines)

1. Name :	Ta Thi Hoai An	
Institution :	Hanoi Institute of Mathematic, VAST	
Email and Phone :	<a href="mailto:tthan@math.ac.vn">tthan@math.ac.vn</a>	+84437563474
2. Name :	Le Giang	
Institution :	Hanoi National University of Education	
Email and Phone :	<a href="mailto:legiang01@yahoo.com">legiang01@yahoo.com</a>	+841648977928
3. Name :	Phung Ho Hai	
Institution :	Hanoi Institute of Mathematic, VAST	
Email and Phone :	<a href="mailto:pnhai@math.ac.vn">pnhai@math.ac.vn</a>	+84904134384
4. Name :	Pham Hoang Hiep	
Institution :	Hanoi Institute of Mathematic, VAST	
Email and Phone :	<a href="mailto:pnhiep@math.ac.vn">pnhiep@math.ac.vn</a>	+84962293988
5. Name :	Do Hoang Son	
Institution :	Hanoi Institute of Mathematic, VAST	
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3. Short Description of the **Scientific Content**, the **Aim** of the proposed school and the potential **Impact** to the local academic system and/or society. (max 100 words)

This school will contain 5 courses of Complex Analysis and Complex Geometry. The courses will be presented by French, Japanese and Vietnamese mathematicians in these domains. The courses are addressed to advanced undergraduated students, graduated students and young researchers from South East Asian countries. The first aim of this school is to provide students with some interested topics of Complex Analysis and Complex Geometry. Another important aim of this school is to create an opportunity for discussions among mathematicians in these domains.

4. The speakers of the school (name, address, email, male/female). Give the percentage of female speakers.

1. Lu Hoang Chinh; Université Paris-Sud, Faculté des Sciences d'Orsay; [chinhsp@gmail.com](mailto:chinhsp@gmail.com); Male  
2. Le Giang; Hanoi National University of Education; [legiang01@yahoo.com](mailto:legiang01@yahoo.com); Female  
3. Vincent Guedj; Institut de Mathématiques de Toulouse-Université Paul Sabatier; [vincent.guedj@math.univ-toulouse.fr](mailto:vincent.guedj@math.univ-toulouse.fr); Male  
4. Shin-ichi Matsumura; Mathematical Institute-Tohoku University; [Mshinichi@math.tohoku.ac.jp](mailto:Mshinichi@math.tohoku.ac.jp); Male  
5. Do Hoang Son; Hanoi Institute of Mathematic, VAST; [dhson@math.ac.vn](mailto:dhson@math.ac.vn); Male  
6. Ahmed Zeriah; Institut de Mathématiques de Toulouse-Université Paul Sabatier; [ahmed.zeriah@math.univ-toulouse.fr](mailto:ahmed.zeriah@math.univ-toulouse.fr); Male

5. Describe in a few lines the local institution related to this school, including the main academic program and its strengths in teaching program and research. Give also the internet site of the local institutions. Do you plan to have a website of this SEAMS school?

Hanoi Institute of Mathematic, VAST is an institution of advanced research in mathematics, belonging to the Vietnam Academy of Science and Technology (the former National Centre for Science and Technology). It was founded in 1969 by the decree no. 25/CP, dated February 5, 1969, of Vietnamese Government.

It is recognized by the Third World Academy of Science (TWAS) as a Center of Excellence in developing countries. It has collaborated with CIMPA since many years in organizing Research Schools and Workshops. Since 2005, we organizes the International Master Program (IMP). This is a joint program with several universities in France and Germany. Most of the students of IMP finish the first year (M1) in Hanoi and continue the second year (M2) in France and Germany. Many of them continue their Ph.D. study in France, Germany, Italy and the USA. Some of the students from the program have received their Master or Ph.D. degree, returned to Vietnam and joint different universities in Vietnam.

In Hanoi Institute of Mathematic, VAST, the complex analysis and geometry group consists of members Ta Thi Hoai An, Pham Hoang Hiep, Do Hoang Son and a graduate student Do Thai Duong. The group conduct research in the areas several complex variables, complex analysis, complex geometry, pluripotential theory, nevanlinna theory, diophantine geometry and number theory. The group runs seminars on complex analysis and geometry and offers graduate courses on topics in the above areas.

Internet site of the local institution: <http://www.math.ac.vn>

We will plan to have a website of this SEAMS school at internet site of the local institution <http://www.math.ac.vn>

6. Provide information on the number and distribution of expected participants. Give the percentage of female participants who will attend the school.

Total number of expected participants: 26  
Foreign expected participants (ASEAN countries): 25%  
Vietnam expected participants: 75%  
Percentage of female participants who will attend the school: 30%

7. Describe the objectives and the program of the proposed school, including the courses (max 5 courses), speakers (in each course), abstracts (8 lines for each course) and tentative schedule of the whole proposed school.

The school will be arranged in two weeks on April 2017. There are five mini-courses, each course consists of 5 x 90 minute lectures. There are also tutorial sessions and discussion, led by young researchers of Hanoi Institute of Mathematics and other universities in Hanoi.

**Course 1:** Foundation of analytic methods in algebraic geometry.

Speaker: Shin-ichi Matsumura

Abstract: The purpose of this lecture is to give the Nadel vanishing theorem and its generalizations. I first introduce the basic notion of holomorphic vector bundles, hermitian metrics, connections, Chern curvatures, and give two proofs for the Kodaira vanishing theorem. One is based on the theory of harmonic integrals and the other is based on the  $L^2$ -method of  $\bar{\partial}$ -equation. In this step, I shall explain a fundamental relation between the theory of several complex variables and algebraic geometry. Finally, I give a generalization of the Kodaira vanishing theorem by using singular hermitian metrics and its applications.

**Course 2:** Introduction to Kähler Geometry

Speaker: Lu Hoang Chinh

Abstract: The purpose of these lectures is to quickly introduce several basic notions in Kähler geometry. We start by defining and giving examples of Kähler manifolds from two points of view: complex geometry and Riemannian geometry. We then study curvature tensors on a compact Kähler manifold specifying in the Ricci curvature. In the last lecture we show how problems concerning existence of canonical Kähler metrics is reduced to Partial differential equation (the Monge-Ampère equation).

**Course 3:** Introduction to Complex Analysis in several variables

Speaker: Ahmed Zeriahi and Do Hoang Son

Abstract: The aim of this course is to provide students with some basis knowledge and techniques of Complex analysis in several variables. Planned contents:

- Holomorphic functions in several variables.
- Plurisubharmonic function.
- Pseudoconvex domains, domain of holomorphy.

**Course 4:** Pluripotential theory on compact manifolds

Speaker: Vincent Guedj and Do Hoang Son

Abstract: The goal of this course is to present the definition and some properties of quasi-plurisubharmonic functions on compact Kahler manifolds. Outline of the lectures:

- Compact Kahler manifolds.
- Quasi-plurisubharmonic functions.
- Envelopes and capacities.
- Finite energy classes.

**Course 5:** Introduction to Nevanlinna theory and its relation with Diophantine approximation

Speaker: Le Giang

Abstract: The purpose of this lecture is to give basic notions in Nevanlinna theory and its relation with Diophantine. We start by defining Nevanlinna characteristic  $T(r, f)$  which measures the rate of growth of a meromorphic function. It has been originally discovered by Osgood and Vojta, there is a formal analogy between Nevanlinna theory in complex analysis and certain results in Diophantine approximation. This connection has motivated the development in both subjects. In this lecture, I describe this analogy.

8. Provide information about provisional budget and the expected funding.

**Provisional Budget**

No	Item	Details	Sources		Total
			CIMPA	Others	
<b>1</b>	<b>Tickets</b>				
	Overseas Participants	Travel for foreign SEAMS students 6 PERSONS X 300 EUR	1.800 EUR		
	Speakers (overseas and local)				
<b>2</b>	<b>Accommodation</b>				
	Participants	For foreign SEAMS students 6 persons x 14 days x 20 EUR	1.680 EUR		
	Participants	For Vietnamese students 20 persons x 14 days x 10 EUR		2.800 EUR	
	Speakers	4 PERSONS X 8 DAYS X 20 EUR	640 EUR		
<b>3</b>	<b>Food Expenses</b>				
		Meals for foreign SEAMS students 6 persons x 14 days x 10 EUR	840 EUR		
		Meals for Vietnamese students 20 PERSONS X 14 DAYS X 10 EUR		2.800 EUR	
<b>4</b>	<b>Local Transport</b>				
		Travel for Vietnamese students 20 PERSONS X 100 EUR		2.000 EUR	

<b>5</b>	<b>Supplies and Printings</b>				
<b>6</b>	<b>Living Expenses for overseas participants</b>				
<b>7</b>	<b>Social program (Exursion)</b>				
	<b>TOTAL</b>		4.960 EUR	7.600 EUR	12.560 EUR

**Note:** At least 2/3 of **CIMPA support** can be used for travel, accommodation and/or living expenses of young researchers (less than 38 or recent PhD) from neighbouring countries of the activity; at most 1/3 at most can be used for lecturers (economy class travel and/or standard living expenses).

**CIMPA support cannot be used for:** reimbursements for participants living in developed countries (even if their nationality is from a developing country); registration fees; proceedings; organizational expenses.

#### **Expected Funding**

<b>No</b>	<b>Item</b>	<b>Confirmed (Yes/Not Yet)</b>	<b>Total</b>
1	CIMPA	Not Yet	4.960 EUR
2	Hanoi Institute of Mathematics, VAST	Yes	7.600 EUR
3	...		
4	....		
	<b>TOTAL</b>		12.560 EUR



9. Provide CVs for the organizers (**2 pages max** for **each person**, including current publications).

### 1. Ta Thi Hoai An

Surname: Ta

Given names: Thi Hoai An

Date of birth: 1972

Nationality: Vietnamese

Sex: Female

Language proficiencies: Vietnamese (native), English (fluent)

Address: Hanoi Institute of Mathematics, VAST, 18-Hoang Quoc Viet, Ha Noi, Viet Nam

E-mail address: [tthan@math.ac.vn](mailto:tthan@math.ac.vn)

Current position: Researcher at Hanoi Institute of Mathematics, VAST

Education:

+ Habilitation Diriger des Recherches (2014 at Blaise Pascal University, Clermont-Ferrand, France)

+ Degree of Doctor of Philosophy in Mathematics (2001 at Hanoi Institute of Mathematics, Vietnam)

#### **Publications:**

1. Ta Thi Hoai An, Cherry William, Wang Julie Tzu-Yueh, Supplement and Erratum to "Algebraic degeneracy of non-Archimedean analytic maps" [Indagationes Mathematicae (N.S.) 19 (2008) 481–492] , Indagationes Mathematicae (N.S.) 26 (2015), 329–336.
2. Ta Thi Hoai An, Nguyen Thi Ngoc Diep, Genus one factors of curves defined by separated variable polynomials, Journal of Number Theory, 133 (2013), 2616-2634.
3. Ta Thi Hoai An, Hsiu-Lien Huang and J. T.-Y. Wang, Generalized B"uchi's problem for algebraic functions and meromorphic functions, Math. Z. 273 (2013), 95-122.
4. Ta Thi Hoai An, Nguyen Thi Ngoc Diep, Heights of Function Field Points on Curves Given by Equations with Separated Variables, International Journal of Mathematics, 23 (2012).
5. Ta Thi Hoai An, Unique range sets for meromorphic functions constructed without an injectivity hypothesis. Taiwanese J. Math. 15 (2011), 697–709.
6. Ta Thi Hoai An, J. T.-Y. Wang, Hensley's problem for complex and non-Archimedean meromorphic functions, Journal of Mathematical Analysis and Applications 381(2011), 661 -- 677.
7. Ta Thi Hoai An, A. Levin and J. T.-Y. Wang, A  $p$ -adic Nevanlinna-Diophantine correspondence, Acta Arithmetica 146 (2011), 379 -- 397.
8. Ta Thi Hoai An, Unique range sets for meromorphic functions constructed without an injectivity hypothesis, Taiwanese Journal of Mathematics, 15 (2011), 697 -- 709.
9. Ta Thi Hoai An, Julie Tzu-Yueh Wang, A note on uniqueness polynomials of entire functions, Vietnam J. Math. 37 (2009), 225-236.
10. Ta Thi Hoai An, Ha Tran Phuong, On an explicit estimate on multiplicity truncation in the second main theorem for holomorphic curves encountering hypersurfaces in general position in projective space, Houston Journal of Mathematics, 35 (2009), 775-786.
11. Ha Huy Khoai, Ta Thi Hoai An, A survey on uniqueness polynomials and unique range sets. In: Some topics on value distribution and differentiability in complex and  $p$ -adic analysis., 143-163; Math. Monogr. Ser., 11, Sci. Press Beijing, 20008.

12. Ta Thi Hoai An, Hà Huy Khoái, Uniqueness polynomials and unique range sets. Some topics on value distribution and differentiability in complex and p-adic analysis, 148–163, Math. Monogr. Ser., 11, Sci. Press Beijing, Beijing, 2008.
13. Ta Thi Hoai An, A. Escassut, Meromorphic solutions of equations over non-Archimedean fields, Ramanujan J. 15 (2008), N0 3, 415 - 433.
14. Ta Thi Hoai An, J. T.-Y. Wang and P.-M. Wong, Non-Archimedean analytic curves in the complements of hypersurface divisors. J. Number Theory 128 (2008), 2275 - 2281.
15. Ta Thi Hoai An, W. Cherry and J.T.-Y. Wang, Algebraic degeneracy of non-archimedean analytic maps, Indagationes Math. 19 (2008), 481-492.
16. Ta Thi Hoai An, J. T.-Y. Wang, Unique range sets and uniqueness polynomials for algebraic curves, Trans. Amer. Math. Soc. 359 (2007), 937 - 964(electronic).
17. Ta Thi Hoai An, A defect relation for non-Archimedean analytic curves in arbitrary projective varieties, Proc. Amer. Math. Soc. 135 (2007), 1255 - 1261.
18. Ta Thi Hoai An, Julie Tzu-Yueh Wang, Pit-Mann Wong, Unique range sets and uniqueness polynomials in positive characteristic. II. Acta Arith. 116 (2005), N0 2, 115 - 143.
19. Ta Thi Hoai An, J. T.-Y. Wang, Unique range sets for non-Archimedean entire functions in positive characteristic fields. In: Ultrametric functional analysis, 323 - 333, Contemp. Math. 384, Amer. Math. Soc., Providence, RI, 2005.
20. Ta Thi Hoai An, J. T.-Y. Wang and P.-M. Wong, Strong uniqueness polynomials: the complex case, Complex Var. Theory Appl. 49 (2004), 25 - 54.
21. Ta Thi Hoai An, Julie Tzu-Yueh Wang, Pit-Mann Wong, Unique range sets and uniqueness polynomials in positive characteristic. Acta Arith. 109 (2003), 259 - 280
22. Ha Huy Khoai, Ta Thi Hoai An, Uniqueness problem with truncated multiplicities for meromorphic functions on a non-Archimedean field, Southeast Asian Bull. Math. 27 (2003), 477 - 486.
23. Ta Thi Hoai An, J. T.-Y. Wang, Uniqueness polynomials for complex meromorphic functions. Internat. J. Math. 13 (2002), 1095 - 1115.
24. Ta Thi Hoai An, A new class of unique range sets for meromorphic functions on  $\mathbb{C}$ . Dedicated to the memory of Le Van Thiem (Hanoi, 1998), Acta Math. Vietnam. 27 (2002), 251 - 256.
25. Ha Huy Khoai, Ta Thi Hoai An, On uniqueness polynomials and bi-URs for  $p$ -adic meromorphic functions, J. Number Theory 87 (2001), N0 2, 211 - 221.

## 2. Le Giang

Surname: Le

Given names: Giang

Date of birth: 1985

Nationality: Vietnamese

Sex: Female

Language proficiencies: Vietnamese (native), English (fluent), French (fluent).

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Current position: Lecturer at Hanoi National University of Education

Education:

Degree of Doctor of Philosophy in Mathematics (2015 at Universite de Bretagne Occidentale, Brest, France and Hanoi National University of Education, Vietnam)

**Publications:**

1. Le Giang, An effective Schmidt's subspace theorem for projective varieties over function fields, preprint, arxiv 1509.07397 .
2. Le Giang, An explicit estimate on multiplicity truncation in the degenerated Second Main Theorem, to appear in Houston Journal of Mathematics.
3. Le Giang, Schmidt's subspace theorem for moving hypersurface targets, International Journal of Number Theory, 1 (2015), 139-158.
4. Le Giang, On the quantitative subspace theorem, Journal of Number Theory, 145 (2014), 474-495.

### 3. Phung Ho Hai

Surname: Phung

Given names: Ho Hai

Date of birth: 1970

Nationality: Vietnamese

Sex: Male

Language proficiencies: Vietnamese (native), English (fluent), German (fluent)

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Current position: Deputy Director at Hanoi Institute of Mathematics, VAST

Education:

+ Habilitation Diriger des Recherches (1996 at University Duisburg-Essen, German)

+ Degree of Doctor of Philosophy in Mathematics (2005 at Ludwig Maximilian University of Munich, German)

**Publications:**

1. Phung Ho Hai, Gauss-Manin stratification and stratified fundamental group schemes, Annales de l'institut Fourier, 63 (2013), 2267-2285, doi: 10.5802/aif.2829.
2. Nguyen Thi Phuong Dung, Phung Ho Hai, Nguyen Huy Hung, Construction of irreducible representations of the quantum super group  $GL_q(3|1)$ , Acta Math. Vietnamica 36 (2011), 215 -- 229.
3. Phung Ho Hai, H. Esnault, Two small remarks on Nori fundamental group scheme, In: Advanced Studies in Pure Mathematics, 60 (2010), 237 -- 243.
4. Phung Ho Hai, B. Kriegk and M. Lorenz,  $\mathbb{N}$ -homogeneous superalgebras, J. Noncommut. Geom. 2 (2008), 1 - 51, preprint arXiv:0704.1888.
5. H. Esnault, Phung Ho Hai, Packets in Grothendieck's section conjecture, Adv. Math. 218 (2008), 395 - 416.
6. H. Esnault, Phung Ho Hai, X. Sun, On Nori's fundamental group scheme. In: Geometry and dynamics of groups and spaces, 377 - 398, Progr. Math., 265, Birkhuser, Basel, 2008.preprint arXiv:math/0605645.
7. Phung Ho Hai, Tannaka-Krein duality for Hopf algebroids, Israel J. Math. 167 (2008), 193 - 225, preprint arXiv:math/0206113.
8. Phung Ho Hai, H. Esnault, The fundamental groupoid scheme and applications, Annales de l'Institut Fourier, 58 (2008), 2381-2412.
9. Phung Ho Hai, Martin Lorenz, Koszul algebras and the quantum MacMahon master theorem, Bull. Lond. Math. Soc. 39 (2007), 667 - 676, preprint arXiv:math/0603169.
10. Hélène Esnault, Phung Ho Hai, The Gauss-Manin connection and Tannaka duality, Int. Math. Res. Not. 2006, Art. ID 93978, 35 pp.
11. Phung Ho Hai, On the representation categories of matrix quantum groups of type A, Vietnam J. Math. 33 (2005), 357 - 367.

12. Phung Ho Hai, The homological determinant of quantum groups of type  $A_n$ . Proc. Amer. Math. Soc. 133 (2005), 1897 - 1905 (electronic), preprint arXiv:math/0305115.
13. Nguyen Thi Phuong Dung, Phung Ho Hai, Irreducible representations of quantum linear groups of type  $A_1|0$ , J. Algebra 282 (2004), 809 - 830.
14. Phung Ho Hai, Nguyen Phuong Dung, On the Poincare series of quadratic algebras associated to Hecke symmetries, Int. Math. Res. Not. 2003, NO 40, 2193 - 2203.
15. Phung Ho Hai, On a theorem of Deligne on characterization of Tannakian categories. In: Arithmetic fundamental groups and noncommutative algebra (Berkeley, CA, 1999), 517 - 531, Proc. Sympos. Pure Math., 70, Amer. Math. Soc., Providence, RI, 2002.
16. Phung Ho Hai, An embedding theorem for abelian monoidal categories, Compositio Math. 132 (2002), 27 - 48.
17. Phung Ho Hai, Characters of quantum groups of type  $A_n$ , Comm. Algebra 30 (2002), 1085 - 1117, preprint arXiv:math/9807045.
18. Phung Ho Hai, Realizations of quantum hom-spaces, invariant theory, and quantum determinantal ideals, J. Algebra 248 (2002), 50 - 84.
19. Phung Ho Hai, The integral on quantum supergroups of type  $AR|S$ , Asian J. Math. 5 (2001), 751 - 769.
20. Phung Ho Hai, Splitting comodules over Hopf algebras and application to representation theory of quantum groups of type  $A_0|0$ . J. Algebra 245 (2001), 20 - 41.
21. Phung Ho Hai, On matrix quantum groups of type  $A_n$ . Internat. J. Math. 11 (2000), 1115 - 1146.
22. Phung Ho Hai, Hecke symmetries. Commutative algebra, homological algebra and representation theory (Catania/Genoa/Rome, 1998). J. Pure Appl. Algebra 152 (2000), 109 - 121.
23. Phung Ho Hai, On structure of the quantum supergroups  $GL_q(m|n)$ . J. Algebra 211 (1999), 363 - 383.
24. Phung Ho Hai, Poincaré series of quantum spaces associated to Hecke operators. Acta Math. Vietnam. 24 (1999), 235 - 246.
25. Phung Ho Hai, Central bialgebras in braided categories and coquasitriangular structures. J. Pure Appl. Algebra 140 (1999), 229 - 250.
26. Phung Ho Hai, Koszul property and Poincaré series of matrix bialgebra of type  $A_n$ . J. Algebra 192 (1997), 734 - 748.
27. Phung Ho Hai, Poincaré series of quantum matrix bialgebras determined by pairs of quantum spaces. Comm. Algebra 23 (1995), 879 - 890.

#### 4. Pham Hoang Hiep

Surname: Pham

Given names: Hoang Hiep

Date of birth: 1982

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Sex: Male

Language proficiencies: Vietnamese (native), English (fluent), French (basic)

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Current position: Researcher at Hanoi Institute of Mathematics, VAST

Education:

- + Habilitation Diriger des Recherches (December, 5th, 2013 at Aix-Marseille University, France)
- + Degree of Doctor of Philosophy in Mathematics (March, 19th, 2008 at Umea University, Umea, Sweden)

**Publications:**

1. Le Mau Hai, Pham Hoang Hiep, An equality on the complex Monge–Ampère measures, *Journal of Mathematical Analysis and Applications*, 444 (2016), 503–511.
2. Pham Hoang Hiep and Trinh Tung, The weighted log canonical thresholds of toric plurisubharmonic functions. *C. R. Acad. Sci. Paris*. 353 (2015), 127–131.
3. P. Ahag, U. Cegrell and Pham Hoang Hiep, Monge–Ampère measures on subvarieties, *J. Math. Anal. Appl.* 423 (2015), 94–105.
4. Le Mau Hai, Pham Hoang Hiep, Nguyen Xuan Hong and Nguyen Van Phu, The Monge–Ampère type equation in the weighted pluricomplex energy class, *Int. J. Math.* 25 (2014).
5. Pham Hoang Hiep, The weighted log canonical threshold, *C. R. Acad. Sci. Paris*. 352 (2014), 283–288.
6. J-P. Demailly and Pham Hoang Hiep, A sharp lower bound for the log canonical threshold, *Acta Math.* 212 (2014), 1–9.
7. J.-P. Demailly, S. Dinew, V. Guedj, S. Kolodziej, Pham Hoang Hiep and A. Zeriahi, Holder continuous solutions to Monge–Ampère equations, *J. Eur. Math. Soc.* 16 (2014), 619–647.
8. Pham Hoang Hiep, A comparison principle for the log canonical threshold, *C. R. Acad. Sci. Paris*. 351 (2013), 441–443.
9. Le Mau Hai, Pham Hoang Hiep and Hoang Nhat Quy, Local property of the class  $\mathcal{E}_1$ , *J. Math. Anal. Appl.* 402 (2013), 440–445.
10. Le Mau Hai, Pham Hoang Hiep and Bui Viet Hung, The log canonical threshold of holomorphic functions, *Int. J. Math.* 23 (2012).
11. S. Dinew and Pham Hoang Hiep, Convergence in capacity on compact Kahler manifolds, *Ann. Sc. Norm. Super. Pisa Cl. Sci.* 11 (2012), 903–919.
12. Le Mau Hai, Pham Hoang Hiep and Nguyen Van Phu, Global and local definition of the Monge–Ampère operator on compact Kahler manifolds, *C. R. Acad. Sci. Paris*. 350 (2012), 153–156.
13. Nguyen Quang Dieu and Pham Hoang Hiep, Weighted Bernstein–Markov property in  $\mathbb{C}^n$ , *Ann. Polon. Math.* 105 (2012), 101–123.
14. Le Mau Hai and Pham Hoang Hiep, Some weighted energy classes of plurisubharmonic functions, *Potential Anal.* 34 (2011), 43–56.
15. Pham Hoang Hiep, Holder continuity of solutions to the Monge–Ampère equations on compact Kahler manifolds, *Ann. Inst. Fourier (Grenoble)* 60 (2010), 1857–1869.
16. Pham Hoang Hiep, Convergence in capacity and applications, *Math. Scand.* 107 (2010), 90–102.
17. P. Ahag, U. Cegrell and Pham Hoang Hiep, A Product Property for the pluricomplex energy, *Osaka J. Math.* 47 (2010), 637–650.
18. Le Mau Hai, Nguyen Van Khue and Phạm Hoàng Hiệp, The complex Monge–Ampère operator on bounded domains in  $\mathbb{C}^n$ , *Result. Math.* 54 (2009), 309–328.
19. P. Ahag, U. Cegrell, R. Czyz and Pham Hoang Hiep, Monge–Ampère measures on pluripolar sets, *J. Math. Pures Appl.* 92 (2009), 613–627.
20. P. Ahag, U. Cegrell, S. Kolodziej, Pham Hoang Hiep and A. Zeriahi, Partial pluricomplex energy and integrability exponents of plurisubharmonic functions, *Adv. Math.* 222 (2009), 2036–2058.

21. Nguyen Van Khue and Pham Hoang Hiep, A comparison principle for the complex Monge-Ampère operator in Cegrell's classes and applications, Trans. Amer. Math. Soc. 361 (2009), 5539-5554.
22. Pham Hoang Hiep and Phung Van Manh, Product properties in weighted pluripotential theory, Acta Math. Vietnam 33 (2008), 143-153.
23. Nguyen Quang Dieu and Pham Hoang Hiep, Pluripolar hulls and complete pluripolar sets, Potential Anal. 29 (2008), 409-426.
24. Pham Hoang Hiep, Pluripolar sets and the subextension in Cegrell's classes, Complex Var. Elliptic Equ. 53 (2008), 675-684.
25. Pham Hoang Hiep, Convergence in capacity, Ann. Polon. Math. 93 (2008), 91-99.
26. Pham Hoang Hiep, On the convergence in capacity on compact Kahler manifolds and its applications, Proc. Amer. Math. Soc. 136 (2008), 2007-2018.
27. P. Ahag, R. Czyz and Pham Hoang Hiep, Concerning the energy class for  $0 < p < 1$ , Ann. Polon. Math. 91 (2007), 119-130.
28. Pham Hoang Hiep, Boundary values of functions in Cegrell's class, Ann. Polon. Math. 92 (2007), 69-74.
29. Le Mau Hai, Nguyen Van Khue and Pham Hoang Hiep,  $w$ -pluripolar sets and subextension of  $w$ -plurisubharmonic functions on compact Kahler manifolds, Ann. Polon. Math. 91 (2007), 25-41.
30. Le Mau Hai, Nguyen Van Khue and Pham Hoang Hiep, The weighted relative extremal functions and weighted capacity, Acta Math. Vietnam 31 (2006), 219-230.
31. Le Mau Hai and Pham Hoang Hiep, The topology on the space of  $w$ -psh functions in the Cegrell classes, Result. Math. 49 (2006), 127-140.
32. Pham Hoang Hiep, The comparison principle and Dirichlet problem in the class,  $p > 0$ , Ann. Polon. Math. 88 (2006), 247-261.
33. Pham Hoang Hiep, Some remarks on the normality of a family of holomorphic maps into the projective, Acta Math. Vietnam 30 (2005), 87-94.
34. Pham Hoang Hiep, A remark on the Dirichlet problem, Vietnam J. Math. 33 (2005), 335-342.
35. Pham Hoang Hiep, A characterization of bounded plurisubharmonic functions, Ann. Polon. Math. 85 (2005), 233-238.

## 5. Do Hoang Son

Surname: Do

Given names: Hoang Son

Date of birth: 1988

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### **Publications:**

Do Hoang Son, Weak solution of Parabolic complex Monge-Ampere equation, arXiv:1506.01506, to appear Indiana U. Math. J.

Do Hoang Son, Weak solution of Parabolic complex Monge-Ampere equation II, arXiv:1605.01879.

Do Hoang Son, Degenerate complex Monge-Ampere flows on strictly pseudoconvex domains, arXiv:1501.07167.