

# Bằng Công Vũ

Laboratory for Information and Inference systems  
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Date of birth: 15/10/1982  
Gender : Male  
Marital status: UnMarried  
Nationality : Vietnam

## EDUCATION

2010 –2013 PhD student in optimization

Institution : Laboratoire Jacque-Louis Lions, UPMC, Paris 6.  
Title : Monotone inclusions in duality and Applications  
Advisor : Prof : Patrick Louis Combettes

2004 -- 2006: Master of science in applied mathematics  
Institution: Ha Noi University of Sciences

2000 -- 2004: Student in mathematics  
Institution: Ha Noi University of Sciences

## EXPERIENCES PROFESSIONNELLES

15.9/2015- Present, Postdoc at Laboratory for Information and Inference systems (LIONS)

09/2013-09/2015 Postdoct at LCSL, Istituto Italiano di Tecnologia , Genova, Italy

05/2010-05/2013 Laboratoire Jacque-Louis Lions, UPMC, Paris 6, PhD thesis

Title : Monotone inclusions in duality and Applications

2004-2010: Researcher and lecturer at Vietnam national university

Teaching: Constructive approximation, numerical analysis, linear programming

## INTERESTS

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Convex optimization, monotone operator theory, nonlinear analysis, stochastic optimization, machine learning, Inverse problems in image and signal processing, stochastic optimization, sparse representation.

## Publications

1. D. Dung and B. C. VU, Some remarks on stability in periodic multi-wavelets decomposition **Acta Vietnamica**, Vol. 10, pp. 49-59, 2006.
2. P. L. Combettes, D. Dung and B.C. VU, **Dualization** of signal recovery problems, **Set-Valued and Variational Analysis**, vol. 18, pp. 373-404, December, 2010.

3. P. L. Combettes, D. Dung, and B. C. VU, Proximity for sums of composite functions, *Journal of Mathematical Analysis and Applications*, vol. 380, no. 2, pp. 680-688, August 2011.
4. B. C. VU, A splitting algorithm for dual monotone inclusion involving cocoercive operators, *Adv. Comput. Math.* **38**, no. 3, 667–681, 2013.
5. P. L. Combettes and B. C. VU, Variable metric quasi-Fejér monotonicity, *Nonlinear -Anal.* **78**, 17–31, 2013.6
6. P. L. Combettes and B. C. VU, Variable metric forward-backward splitting with application to monotone inclusions in duality, *Optimization*, vol. **63**, no. **9**, pp. **1289- 1318**, **September 2014**
7. B. C. VU, A variable metric extension of forward-backward-forward algorithm for monotone operators, *Numerical Functional Analysis and Optimization*, vol. **34**, pp. **1050-1065**, **2013**.
8. B. C. VU, A Splitting Algorithm for Coupled System of Primal-- Dual Monotone Inclusions, *Journal of Optimization Theory and Applications*, Volume **164**, Issue 3, pp **993-1025**, **2015**.
9. D. Dung and B.C. VU, A splitting algorithm for system of composite monotone inclusions, *Vietnam Journal of Mathematics*, published online <http://link.springer.com/article/10.1007%2Fs10013-015-0121-7#page-1>
10. P. L. Combettes, L. Condat, J.-C. Pesquet, and B. C. VU, "A forward-backward view of some primal-dual optimization methods in image recovery, **Proceedings of the IEEE International Conference on Image Processing Paris, France, October 27-30, 2014**.
11. B. C. VU, Almost sure convergence of the stochastic forward-backward-forward splitting algorithm, *Optim. Lett.* vol. **10**, pp. **781–803**, **2016**.
12. L. Rosasco, S. Villa, B. C. VU, Almost sure convergence of the inertial forward-backward splitting for multivariate monotone inclusions, *Optimization*, vol. **65**, pp. **1293-1314**, **2016**.
13. L. Rosasco, S. Villa, B. C. VU, Stochastic forward-backward splitting method for solving monotone inclusions in Hilbert spaces, *J. Optim. Theory Appl.* vol.169 , pp. 388–406, 2016
14. A. Yurtsever, B. C. VU and V. Cevher, Stochastic Three-Composite Convex Minimization, *Advances in Neural Information Processing Systems 29 (NIPS 2016)*.

### **Working papers**

1. L. Rosasco, S. Villa, B. C. VU, Convergence of Stochastic Proximal Gradient Algorithm, submitted.
2. L. Rosasco, S. Villa, B. C. VU, Early Stopping for Convex Regularizations, to be submitted.
3. L. Rosasco, S. Villa, B. C. VU, A first-order stochastic primal-dual algorithm with correction step, submitted.
4. V. Cevher, B. C. VU, and A. Yurtsever, Stochastic Forward Douglas-Rachford Splitting for Monotone Inclusions, submitted.

### **PRESENTATIONS-TALKING**

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1. B. C. VU, On some applications of the forward-backward splitting algorithm, 6h workshop on optimization and scientific computing, April, Ba Vi, Vietnam, 2008.
2. B. C. VU, Résolution numérique de problèmes variationnels composites, Semaine Conjointe GdR MOA et GdR MSPC, La Londe, juin 2011.

3. B. C. VU, Résolution d'inclusions monotones composites, Congrès du LIA, Formath Vietnam Paris, novembre, 2011.
4. B.C. VU, Résolution numérique d'inclusions monotones composites, Seminar group de thésard, 04 /2012.
5. B. C. VU, Comportement asymptotique d'algorithmes d'optimisation avec métrique variable, Journées du GdR MOA, Guadeloupe France, 2012.
6. B. C. VU, A splitting algorithm for Coupled System of Primal-- Dual Monoton Inclusions, Conference France-Itlaia, Restri-Levante, Setemper, 2014.
7. B. C. VU, Stochastic Numerical Methods for Monotone in Hilbert space, ICCOPT2016, Tokyo

#### **PROFESSIONAL RELATED WORK**

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1. Referee for SIAM Journal on Control and Optimization.
2. Referee for Numerische mathematic
3. Referee for Numerical Algorithm.
4. Referee for Journal of Optimization theory and applications.
5. Referee for Journal of Mathematical Imaging and Vision