

Curriculum Vitæ of Patricia CONDE-CESPEDES

Personal Information

Civil status :

Name : Patricia Conde-Céspedes

Born : February 22nd, 1983 in La Paz-Bolivia

Citizenship : French

Marital status : Single

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L2TI, Université Paris-13

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Research Interests : Graphs and networks, social network analysis, clustering algorithms, optimization, graph clustering and modularization, community detection in complex networks, modularization quality functions, supervised and unsupervised learning, data mining.

Current position

Since September 1st, 2014, postdoctoral researcher at L2TI (Laboratoire de traitement et transport de l'information) at University Paris 13, contract funded by the REQUEST (RECURSIVE QUERY & SCALABLE TECHNOLOGIES) project.

Education

2010 – 2013 **PhD in Statistics**, Theoretical and Applied Statistics Laboratory (LSTA), Pierre et Marie Curie University (Paris 6).

Title : *Modelling and extensions of Mathematical Relational Analysis to graph clustering.*

Advisor : Jean-François Marcotorchino.

Defended : on December 18th, 2013 at LSTA *Mention* : Très honorable.

Financement : Contrat doctoral.

Jury members :

Paul DEHEUVELS	University Pierre et Marie Curie
Jean-Loup GUILLAUME	University de la Rochelle
Jean-François MARCOTORCHINO	Directeur Scientifique, Thales
Gilbert SAPORTA	Conservatoire national des arts et métiers
Michalis VAZIRGIANNIS	École Polytechnique
Emmanuel VIENNET	University Paris 13

Thesis referees : Renaud LAMBIOTTE and Emmanuel VIENNET

2009 – 2010 **Master 2 in Statistics**, Université Pierre-et-Marie-Curie. *Mention Bien.*

2005 – 2006 **Master ISMAG (Informatique, Statistique et Mathématiques appliquées à la Gestion)**, University Toulouse 2 (UTM). *Mention Assez Bien.*

2000 – 2005 **Industrial Engineering**, University Mayor de San Andrés-UMSA (La Paz- Bolivia). *Graduated with Honors : "Academic Excellence" (highest distinction).*

Awards and scholarships

— 2014 : Nominated for the Thales Thesis Prize, my thesis was one of the 2 thesis selected by the division Thales SIX for the general competition of Thales Corp.

- 2010 : Full scholarship covering the preparation towards the PhD. (contrat doctoral) degree at University Pierre and Marie Curie.
- 2005 : Academic Excellence Scholarship covering the studies towards the Master's degree at a French University, awarded by the French Embassy in Bolivia.
- 2002 : Prize «Guido Capra Jemio» awarded to the best student in Industrial Engineering of the University Mayor de San Andrés (UMSA), La Paz-Bolivie.

Publications

- P. Conde-Céspedes, F. Marcotorchino et E. Viennet. "Comparison of linear modularization criteria using the relational formalism, an approach to easily identify resolution limit". AKDM6, "Advances in Knowledge Discovery and Management", to appear in 2016.
- P. Conde-Céspedes, B. Ngonmang et E. Viennet, "Approximation of the Maximal α -Consensus Local Community detection problem in Complex Networks". In IEEE SITIS 2015, International Workshop on Complex Networks and their Applications, Bangkok, Thailand, November 2015.
- P. Conde-Céspedes, F. Marcotorchino et E. Viennet. "Comparison of linear modularization criteria using the relational formalism, an approach to easily identify resolution limit". 15^{ème} Conférence Internationale Francophone sur l'Extraction et la Gestion des Connaissances (EGC'15), RNTI-E-28, pages 203-214, 2015.
- P. Conde-Céspedes et F. Marcotorchino. *Comparing different modularization criteria using relational metric*. In F. Nielsen et F. Barbaresco, editors, Proc. First International Conference, Geometric Science of Information, number 1, pages 180–187, Paris, France, 2013. Springer-Verlag.
- F. Marcotorchino et P. Conde-Céspedes. *Optimal transport and minimal trade problem, impacts on relational metrics and applications to large graphs and network modularity*. In F. Nielsen et F. Barbaresco, editors, Proc. First International Conference, Geometric Science of Information, number 1, pages 169–179, Paris, France, 2013. Springer-Verlag.
- P. Conde-Céspedes et F. Marcotorchino. *Modularisation et Recherche de Communautés dans les réseaux complexes par Unification Relationnelle*. Revue des Nouvelles Technologies de l'Information (RNTI-A6), pages 71–97, June 2012.
- G. Louah, P. Conde-Céspedes, D. Daucher, B. Jourdain, and F. Bosc. Traffic operations at an entrance ramp of a suburban freeway first results. *Procedia - Social and Behavioral Sciences*, 16(0) :162 – 171, 2011. 6th International Symposium on Highway Capacity and Quality of Service.

Submitted papers

- R. Campigotto, P. Conde-Céspedes, J-L Guillaume. "A Generalized and Adaptive Method for Community Detection". <http://arxiv.org/abs/1406.2518>.
- P. Conde-Céspedes, B. Ngonmang et E. Viennet, "Approximation of the Maximal α -Consensus Local Community detection problem in Complex Networks". http://www-l2ti.univ-paris13.fr/~condecspedes/article_localCon.pdf.

Refereeing : Revue des Nouvelles Technologies de l'Information (RNTI), IEEE Transactions on Knowledge and Data Engineering (TKDE), Knowledge and Information Systems (KAIS).

Conferences and seminars

- May 15th, 2012 : "Séminaire des doctorants du LSTA", University Pierre et Marie Curie.
- May 23rd, 2012 : "44èmes Journées de Statistique, Société Française de Statistiques", Bruxelles.
- June 28th, 2012 : "5èmes Journées "Apprentissage Artificiel & Fouille de Données", University Paris 13.
- November 29th, 2012, "journées ResCom", University Pierre et Marie Curie.
- May 29th, 2013 : "45èmes Journées de Statistique, Société Française de Statistiques", Toulouse.
- July 10th-12th 2013 : European Conference on Data Analysis, Luxembourg.
- August 28th, 2013 : First International Conference, Geometric Science of Information, Paris.
- April 14th-18th, 2014 : "Semaine d'Étude Maths-Entreprises (SEME)", Marseille.
- April 29th-30th, 2014 : "6èmes Journées Apprentissage Artificiel & Fouille de Données", University Paris 13, Paris.
- September 10th-12th, 2014 : "21ème rencontre de la société francophone de classification (SFC'14)", Rabat.
- October 15th-17th, 2014 : "5ème Journée thématique : Fouille de grands graphes (JFGG'14)", Paris.
- January 27th-30th, 2015 : "15ème Conférence Internationale Francophone sur l'Extraction et la Gestion des Connaissances (EGC'15)", Luxembourg.
- September 28th- October 2nd, 2015 : ECAS course on Statistical Analysis of Network Data, Herrsching, Germany.
- January 22nd, 2016 : Complex networks seminar, LIP6, University Paris 6.
- February 04th, 2016 : "Séminaire de l'équipe Machine Learning for Data Science (MLDS), Laboratory LIPADE, University Paris Descartes (Paris 5).

Teaching

In **applied mathematics** : 346 hours at Université Pierre-et-Marie-Curie from September 2010 to August 2014 :

- Linear Algebra, tutorial classes (Licence 1), 126 hours.
- Data Analysis and regression, tutorial and practical classes with R (Licence 3), 108 hours.
- General linear model, tutorial classes (ISUP and Master 1), 60 hours.
- Courses of Mathematics to prepare the CRPE competition, lecturing classes and tutorial classes (Licence 3), 52 hours.

In **computer science** : 79 hours at l'IUT de Villetaneuse at Université Paris-13 since September 2015 :

- Introduction to programming in C, (tutorial and practical classes), (Licence 1), 18 hours.
- Algorithmic and programming in python (lecturing, tutorial and practical classes), (Licence 3), 34 hours.
- Algorithmic and programming in C, (tutorial and practical classes), (Licence 1), 27 hours.

Experience

Interships

April 2006-September 2006 : Airbus SAS, Blagnac-France.

Title : *Consolidation de l'évaluation du risque lié aux Lettres de Réserve et Actualisation des Courbes de Maturité.*

Tools : Descriptive statistics, Artificial neural network, Business objects, Splunk, Microsoft Excel.

May 2010-September 2010 : Institut français des sciences et technologies des transports, de l'aménagement et des réseaux (IFSTTAR), Paris-France.

Title : *Etude et caractérisation de pelotons de véhicules sur des routes à forte circulation – Applications.*
Encadrants : Benjamin JOURDAIN and Dimitri DAUCHER
Tools : logistic regression, Correspondence analysis, microsoft access, Microsoft excel, SAS.

Working

November 2006-August 2009 : Engineer Statistician (Permanent contract) at Carl Zeiss Vision GVLab, Aubergenville-France.

Responsibilities : Determine the influential factors on the quality of manufacturing glasses.

Tools : Descriptive statistics, Experimental Design, Statistical Process Control (MSP), Multiple correspondence analysis, SPSS, Development of MSP program in Win Wrap Basic (Visual Basic for SPSS).

Computer Skills

Languages R, C (beginner), python, \LaTeX

Tools SPSS, R, Microsoft Office.

Platforms Windows, Linux

Languages

Spanish (mother tongue), French (bilingual), English (bilingual), German (beginner).