

# CURRICULUM VITAE

## PERSONAL DETAILS

|                 |  |
|-----------------|--|
| Last name       | <b>BRICEÑO ARIAS</b>   |
| First name      | <b>Luis</b>  |
| Middle name     | <b>Manuel</b>  |
| Address         | Universidad Técnica Federico Santa María<br>Departamento de Matemática<br>Av. Vicuña Mackenna 3939, of. A055<br>8940897, San Joaquín Santiago, Chile |
| Phone           | (+56 2) 23 03 73 40  |
| Email           | <code>luis.briceno@usm.cl</code>   |
| Website         | <code>lbriceno.mat.utfsm.cl</code>   |
| Marriage status | Married  |
| Date of birth   | 23 April 1982  |
| Gender          | Male   |
| Nationality     | Chilean  |

## TEACHING EXPERIENCE

|           |   |
|-----------|---|
| 2012–     | <b>Universidad Técnica Federico Santa María (USM).</b><br>Lectures on <ul style="list-style-type: none"><li>• <b>Introduction to Mathematical Engineering : IWG101</b> (2017-1).</li><li>• <b>Introduction to Advanced Mathematics : MAT125</b> (2015-2, 2016-2).</li><li>• <b>Optimization : MAT275</b> (2013-2, 2014-2).</li><li>• <b>Calculus IV : MAT024</b> (2013-1).</li><li>• <b>Calculus II : MAT022</b> (2012-2, 2016-2).</li><li>• <b>Calculus I : MAT021</b> (2012-1, 2015-1, 2016-1).</li></ul> |
| 2013      | <b>Escuela Politécnica Nacional, Quito, Ecuador.</b><br>Lecture on <b>Optimización y Cálculo de Variaciones</b> with Juan Peypouquet, Escuela de Control y Optimización (ECOPT 2013).   |
| 2010–2011 | <b>Université Paris-Est Créteil, Paris XII.</b><br>Teaching assistant in <ul style="list-style-type: none"><li>• <b>Functions.</b> Professors : Galina Perelman and Clotilde Fermanian.</li><li>• <b>Statistics.</b> Professors : Françoise Lucas and Clotilde Fermanian.</li></ul>   |
| 2007–2010 | <b>Université Pierre et Marie Curie, Paris VI.</b><br>Teaching assistant in <ul style="list-style-type: none"><li>• <b>Functions.</b> Professor : Daniel Bertrand.</li><li>• <b>Sequences, series, and integrals.</b> Professor : Claire Cazes.</li></ul>   |

- **Functions.** Professor : Sami Mustapha.
- 2002–2006      **Universidad de Chile.**  
Teaching assistant in
- **Calculus.** Professor : Leonardo Sanchez.
  - **Transport networks.** Professor : Cristián Cortés.
  - **Calculus.** Professor : Leonardo Sanchez.
  - **Introduction to Physics.** Professor : Romualdo Tabensky.

## REPRESENTATION

- 2017/1–      Director of Studies, Mathematical Engineering, USM.
- 2016/1      Coordinator of Mathematics I (MAT021), USM.
- 2015      Member of organizing committee of “IV Escuela del Doctorado de Matemática de Valparaíso”.

## PROFESSIONAL EXPERIENCE

- 2015–      Assistant Professor, Universidad Técnica Federico Santa María.
- 2012–2014      Researcher, Universidad Técnica Federico Santa María.
- 2011–2012      Postdoctoral position, Center for Mathematical Modeling, CNRS–UMI 2807, Universidad de Chile.
- 2010–2011      ATER Université Paris-Est Créteil. This corresponds to an academic position of teaching assistant in mathematics given by the French government, which financed the last year of my thesis.
- 2007–2010      Moniteur CIES Jussieu, Université Pierre et Marie Curie, Paris VI. This corresponds to an academic position of teaching assistant in mathematics given by the French government.
- June–August, 2007      Internship in the “Laboratoire Jacques-Louis Lions,” Paris VI, under the supervision of P. L. Combettes. This work, finished with a masters thesis, was the beginning of my Ph.D. thesis.
- February, 2005      Internship in ENDESA S.A.
- January, 2005      Internship in SECTRA.
- January, 2004      Internship in UNO Computerland Microcare S.A.

## EDUCATION

- 2011–2012      **Postdoctoral position,**  
Center for Mathematical Modeling, CNRS–UMI 2807, Universidad de Chile.
- 2012      **Qualified for the position *Maître de Conférences*,**  
Section 26, *Mathématiques appliquées et applications des mathématiques*  
France.
- 2007–2011      **Ph.D. in Applied Mathematics,**  
under the supervision of Patrick L. Combettes,  
Laboratoire Jacques-Louis Lions,  
Équipe Combinatoire et Optimisation,

- Université Pierre et Marie Curie, Paris VI. Obtained in May 2011, “Mention très honorable”.
- 2006–2007 **Master of Science “Mathématiques de la Modélisation”**  
 “Optimisation et Théorie des Jeux, Modélisation en Économie,”  
 Université Pierre et Marie Curie, Paris VI. Obtained in January 2008,  
 “Mention très bien”.
- 2005–2006 **Master of Science in Transportation Engineering**  
 Escuela de Ingeniería y Ciencias,  
 Facultad de Ciencias Físicas y Matemáticas,  
 Universidad Técnica Federico Santa María Universidad de Chile. Ob-  
 tained in January 2007 “Distinción Máxima”.
- 2000–2006 **Mathematical Engineering**  
 Escuela de Ingeniería y Ciencias,  
 Facultad de Ciencias Físicas y Matemáticas,  
 Universidad de Chile. Obtained in January 2007 “Distinción Máxima”.
- 2000–2005 **Bachelor of Science, mention mathematics,**  
 Escuela de Ingeniería y Ciencias,  
 Facultad de Ciencias Físicas y Matemáticas,  
 Universidad de Chile. Obtained in November 2005, “Distinción”.

## PROJECTS

- 2016-2017 Responsible of project **DGIP-UTFSM 216.12.3**, Universidad Técnica Federico Santa María, “Estudio de métodos de coordinación aplicados a la optimización de procesos de gran escala”.
- 2015-2016 Member of project **Redes 140183**, “AM2V ModeMat Network on Optimization and Control”. Main researcher : Juan Peypouquet.
- 2014-2017 Responsible of project **FONDECYT 11140360, iniciación 2014**, “Optimal control of coupled differential inclusions : Algorithms and applications”.
- 2015-2016 Member of project **MathAm Sud 15MATH02**, “Sparse Optimal Control of Differential Inclusions : Algorithms and Applications”. Main researcher : Juan Carlos De Los Reyes.
- 2014-2015 Member of project **ECOS-CONICYT C13E03**, “Dynamical systems and algorithms in nonsmooth and nonconvex optimization problems”. Main researchers : Hedy Attouch and Juan Peypouquet.
- 2013-2016 Member of project **DGIP-UTFSM 12.13.10**, Universidad Técnica Federico Santa María, “Asymptotic analysis of perturbed dynamical systems and applications”. Main researcher : Juan Peypouquet.
- 2013-2014 Member of project **MathAm Sud N 13MATH01**, “Variational Analysis and its applications to optimization, monotone operators, convex analysis, and Nash equilibrium problems”. Main researcher : Abderrahim Hantoute.
- 2012-2015 Member of project **Anillo ACT 1106**, “Analysis of Control Problems and Applications”. Main researcher : Erwin Hernández.
- 2011-2014 Responsible of project **FONDECYT 3120054, postdoctorado 2012**, “Coupled equilibria in mixed networks : modelization, methods,

and applications”. Sponsor : Alejandro Jofré, CMM-Universidad de Chile.

2011-2013

Member of project **FONDEF D10I 1002**, “Tecnología avanzada para ciudades del futuro”, Universidad de Chile. Main researcher : Francisco Martínez.

## PUBLICATIONS

2017

L. M. Briceño-Arias, J. R. Correa, and A. Perlroth, Optimal continuous pricing with strategic consumers, *Management Science*, to appear.

L. M. Briceño-Arias, D. Kalise, and F. J. Silva, Proximal methods for stationary Mean Field Games with local couplings, submitted.

L.M. Briceño-Arias and D. Davis, Forward-Backward-Half Forward Algorithm with non Self-Adjoint Linear Operators for Solving Monotone Inclusions, submitted.

2016

L. M. Briceño-Arias, N. Hoang, and J. Peypouquet, Existence, stability and optimality for optimal control problems governed by maximal monotone operators, *J. Differential Equations*, vol. 260, pp. 733–757, 2016.

H. Attouch, L. M. Briceño-Arias, and P. L. Combettes, A strongly convergent primal-dual method for nonoverlapping domain decomposition, *Numer. Math.*, vol. 133, no. 3, pp. 433–470, 2016.

2015

L. M. Briceño-Arias, Forward-partial inverse-forward splitting for solving monotone inclusions, *J. Optim. Theory Appl.*, vol. 166, pp. 391–413, 2015.

D. Navia, L. M. Briceño-Arias, G. Gutierrez, and C. de Prada, Modifier-Adaptation Methodology for Real Time Optimization Reformulated as a Nested Optimization Problem, *Ind. Eng. Chem. Res.*, vol. 54(48), pp. 12054-12071, 2015.

L. M. Briceño-Arias, Forward-Douglas-Rachford splitting and forward-partial inverse method for solving monotone inclusions, *Optimization*, vol. 64, pp. 1239–1261, 2015. SJR 2013=0,62 (Q2), Conicyt : B.

2013

L. M. Briceño-Arias and P. L. Combettes, Monotone operator methods for Nash equilibria in non-potential games, in : *Computational and Analytical Mathematics*, D. Bailey, H. H. Bauschke, P. Borwein, F. Garvan, M. Théra, J. Vanderwerff, and H. Wolkowicz, Eds., Springer, New York, pp. 143–159, 2013.

L. M. Briceño-Arias, F. Martínez, and C. Vigouroux, Land use planning problem : a primal-dual splitting algorithm, *XVI Congreso Chileno de Ingeniería de Transporte*, no. 16, 2013 <http://congresotransporte.uchile.cl/index.php/CIT/article/view/28464/30184>.

2012

L. M. Briceño-Arias, A Douglas-Rachford splitting method for solving equilibrium problems, *Nonlinear Anal.*, vol. 75, pp. 6053–6059, 2012. SJR 2013=1,66 (Q1), Conicyt : B.

2011

L. M. Briceño-Arias, P. L. Combettes, J.-C. Pesquet, and N. Pustelnik, Proximal algorithms for multicomponent image processing, *J. Math. Imaging Vision*, vol. 41, pp. 3–22, 2011. SJR 2013=1,25 (Q1).

- L. M. Briceño-Arias, Outer approximation method for constrained composite fixed point problems involving Lipschitz pseudo contractive operators, *Numer. Funct. Anal. Optim.*, vol. 32, pp. 1099–1115, 2011. SJR 2013=0,645 (Q2), Conicyt : B.
- L. M. Briceño-Arias and P. L. Combettes, A monotone+skew splitting model for composite monotone inclusions in duality, *SIAM J. Optim.*, vol. 21, pp. 1230–1250, 2011. SJR 2013=2,62 (Q1), Conicyt : MB.
- 2010 H. Attouch, L. M. Briceño-Arias, and P. L. Combettes, A parallel splitting method for coupled monotone inclusions, *SIAM J. Control Optim.*, vol. 48, pp. 3246–3270, 2010. SJR 2013=1,4 (Q1), Conicyt : MB.
- M. Bravo, L. M. Briceño-Arias, R. Cominetti, C. Cortés, and F. Martínez, An integrated behavioral model of the land-use and transport systems with network congestion and location externalities, *Transp. Res. Part B : Methodological*, vol. 44, pp. 584–596, 2010. SJR 2013=3,31 (Q1).
- L. M. Briceño-Arias, P. L. Combettes, J.-C. Pesquet, and N. Pustelnik, Proximal method for geometry and texture image decomposition, *Proceedings of the IEEE International Conference on Image Processing*, Hong-Kong, 26–29 September, 2010.
- 2009 L. M. Briceño-Arias and P. L. Combettes, Convex variational formulation with smooth coupling for multicomponent signal decomposition and recovery, *Numer. Math. Theory Methods Appl.*, vol. 2, pp. 485–508, 2009. SJR 2013=0,7 (Q2).
- 2008 L. M. Briceño-Arias, R. Cominetti, C. Cortés, and F. Martínez, An integrated behavioral model of land use and transport system : a hyper-network equilibrium approach, *Netw. Spat. Econ.*, vol. 8, pp. 201–224, 2008. SJR 2013=1,29 (Q1).
- 2006 L. M. Briceño-Arias, R. Cominetti, C. Cortés y F. Martínez, Modelo integrado de transporte y uso de suelo : un enfoque de optimización en redes, *Actas del XIV Congreso Panamericano de Ingeniería de Tránsito y Transporte*, Spain, 20–23 September 2006.

## ORGANIZATION OF/IN CONFERENCES

- 2017 Organizer of Session *Optimization and Control* in MCA 2017 (<https://mca2017.org/>).
- Member of Organization Committee of JFCO 2017 (<https://www.irit.fr/JFCO/>).
- 2016 Organizer of Session *Numerical Methods in Optimal Control and Optimization* in EURO 2016 (<http://www.euro2016.poznan.pl/>).
- Organizer of Session *Variational Analysis, Optimization, and Applications* in ICCOPT 2016 (<http://www.iccopt2016.tokyo/>).

## CONFERENCE TALKS

- Mars 2017 “Splitting algorithms for solving composite convex optimization problems : A survey and new results”, Séminaire ETIS-ICI, ENSEA, Université Cergy-Pontoise, France, 28 Mars 2017.

- August 2016 “Projected Chambolle-Pock splitting for solving monotone inclusions”, *5th International Conference on Continuous Optimization (IC-COPT 2016)*, Tokyo, Japan, 6-11 August 2016.
- July 2016 “Projected Chambolle-Pock splitting for solving monotone inclusions”, *28th European Conference on Operational Research (EURO 2016)*, Poznań, Poland, 3-6 July 2016.
- June 2016 “Splitting algorithms for solving composite convex optimization problems : A survey and new results”, Séminaire XLim, Université de Limoges, Limoges, France, 17 June 2016.
- April 2016 “Splitting algorithms for solving composite convex optimization problems : A survey and new results”, Seminario IIIIO, Universidad Adolfo Ibáñez, 19 April 2016.
- July 2015 “Strong convergent Tseng’s algorithm for solving monotone inclusions”, *International Symposium on Mathematical Programming (ISMP 2015)*, Pittsburgh, USA, 12–17 July 2015.
- June 2015 “Métodos de separación proximales para la resolución de problemas de descomposición de dominio en EDP’s”, Seminario USACH, 17 Junio 2015.
- December 2014 “Strong convergent Tseng’s algorithm for solving monotone inclusions”, *LXXXIII Encuentro Anual de la Sociedad Matemática de Chile, SOMACHI*, Quinamávida, Chile, 4-6 December, 2014.
- July 2014 “A splitting method for solving primal-dual monotone inclusions involving vectorial subspaces : application to zero-sum games”, *4th Latin American Workshop on Optimization and Control (LAWOC 2014)*, Lima, Peru, 15-18 July, 2014.
- “A splitting method for solving composite primal-dual monotone inclusions involving vectorial subspaces”, *12th EUROPT Workshop on Advances in Continuous Optimization*, Perpignan, France, 10-12 July, 2014.
- April 2014 “Splitting algorithm for computing Nash equilibria in zero-sum games”, *XXVII Jornada de Matemática de la Zona Sur*, Trailanqui, Temuco, Chile, 23–25 April, 2014.
- “Splitting Algorithms for computing Nash equilibria in zero-sum games”, *Seminario AGCO*, Department Industrial Engineering, Universidad de Chile, April 9th, 2014.
- October 2013 “The land use planning problem : a primal-dual splitting algorithm” in collaboration with F. Martínez and C. Vigouroux, *XVI Congreso Chileno de Ingeniería de Transporte*, FCFM, Universidad de Chile, Santiago, Chile, 21-25 October 2013.
- “Forward-partial inverse-forward method for solving monotone inclusions : application to land use planning”, *Workshop on Algorithms and Dynamics for Games and Optimization*, Playa Blanca, Tongoy, Chile 14-18 October, 2013.
- “Forward-partial inverse-forward method for solving monotone inclusions : application to land use planning”, *XI International Seminar on Optimization and Related Areas*, Lima, Peru, 7-11 October 2013.

- August 2013 “Forward-partial inverse-forward method for solving monotone inclusions : application to land use planning”, *Mathematical Congress of the Americas 2013 (MCA 2013)*, Guanajuato, Mexico, 5-9 August 2013.
- July 2013 “Forward-partial inverse method for solving monotone inclusions : application to land use planning” and “A new error correction technique with strong theoretical properties” in collaboration with Salvador Flores, *International Conference on Continuous Optimization (ICCOPT 2013)*, Lisbon, Portugal, July 27<sup>th</sup>-August 1<sup>st</sup> 2013.
- June 2013 “Forward-partial inverse-forward method for solving monotone inclusions : application to land use planning”, *Workshop Nonlinear Optimization : A Bridge from Theory to Applications*, Erice, Sicily, Italy, 10-17 June 2013.
- “Méthode explicite-inverse partiel-explicite pour résoudre des inclusions monotones et applications”, *Journées annuelles du GdR MOA*, IHP, Paris, France, 17-19 June 2013.
- “Résolution d’inclusions monotones via l’utilisation de l’inverse partiel et l’éclatement d’opérateurs”, *Séminaire Parisien d’Optimisation*, IHP, Paris, France, 10 June 2013.
- October 2012 “Optimal Continuous Pricing with Strategic Consumers”, *INFORMS Annual Meeting 2012*, Phoenix, AZ, 14–17 October, 2012.
- September 2012 “The land use planning problem : a primal-dual splitting algorithm”, *XVII Congreso Panamericano de Ingeniería de Tránsito, Transporte y Logística (PANAM 2012)*, Universidad de los Andes, Santiago, Chile, 24–27 September, 2012.
- August 2012 “Preannounced pricing with strategic consumers”, *International Symposium on Mathematical Programming (ISMP 2012)*, Berlin, Germany, 19–24 August, 2012.
- June 2012 “Généralisation de la méthode des inverses partielles et de l’éclatement explicite-implicite”, *Journées du GdR MOA*, Hotel le Manganao, Saint François, Guadeloupe, France, 4–7 June, 2012.
- April 2012 “Descomposición monótono+antiadjunto para la resolución de inclusiones monótonas compuestas : aplicación al mercado de uso de suelo”, *XXV Jornada de Matemática de la Zona Sur*, Universidad de Concepción, Concepción, Chile, 18–20 April, 2012.
- March 2012 “Land use equilibrium with general objective functions”, *2nd Workshop on Urban Dynamics, URBANICS II*, Termas de Chillán, Chile, 26–29 March, 2012.
- January 2012 “A monotone+skew splitting model for composite monotone inclusions in duality”, *III Latin American Workshop on Optimization and Control, LAWOC 2012*, Universidad Técnica Federico Santa María, Valparaíso, Chile, 10–13 January, 2012.
- December 2011 “A Douglas-Rachford splitting algorithm for solving equilibrium problems”, *Septièmes Journées Franco-Chiliennes d’Optimisation*, Université de Perpignan Via Domitia, Perpignan, France, 1–3 December, 2011.
- June 2011 “Décomposition de domaine dans les EDP par éclatement d’opérateurs monotones”, *Journées conjointes GdR MOA et MCPS*, La Londe les Maures, France, 6–10 June, 2011.

- November 2010 “A composite fixed point problem and applications”, *Atelier Franco-Chilien : Dynamiques, Optimisation et Apprentissage*, Instituto Sistemas Complejos, Valparaíso, Chile, 22–26 November, 2010.
- October 2010 “Méthode d’éclatement pour la résolution de problèmes d’équilibre”, *Conférence annuelle du Groupe de Recherche en Mathématiques de l’Optimisation et Applications (GdR MOA)*, Institut Henri Poincaré, Paris, France, 18–20 October, 2010.
- April 2010 “Construction d’équilibres pour un système de problèmes de minimisation”, *Optimisation : Algorithmes et Dynamique*, Laboratoire Arago, Université Pierre et Marie Curie, Banyuls sur Mer, France, 1–2 April, 2010.
- March 2010 “Construction d’équilibres pour un système de problèmes de minimisation”, *MODE 2010 : Conférence de la SMAI sur l’Optimisation et la Décision*, Université de Limoges, Limoges, France, 24–26 March, 2010.
- October 2009 “Convergence d’une méthode de résolution de systèmes d’inclusions monotones couplées”, *Conférence annuelle du Groupe de Recherche en Mathématiques de l’Optimisation et Applications (GdR MOA)*, Porquerolles, France, 18–21 October, 2009.
- May 2009 “Éclatement d’un problème variationnel avec couplage—Application à la décomposition d’images”, *Congrès SMAI 2009, 4e Biennale Française des Mathématiques Appliquées et Industrielles*, La Colle sur Loup, Alpes Maritimes, France, 25–29 May, 2009.
- November 2008 “Un système dynamique discret pour les jeux simultanés faiblement couplés”, *Dynamic Games, Differential Games III*, Roscoff, France, 24–26 November, 2008.
- September 2008 “Acoplamiento de inclusiones monótonas y aplicaciones”, *Seminario de Optimización y Equilibrio*, DIM, Universidad de Chile, Santiago, Chile, 24 September, 2008.
- February 2008 “Un système dynamique discret pour les jeux simultanés faiblement couplés”, *MODE 2008 : Conférence de la SMAI sur l’Optimisation et la Décision*, Université Blaise Pascal, Clermont-Ferrand, France, 26–28 February, 2008.

## ATTENDANCE AT CONFERENCES

- May 2015 *International Conference on Variational Analysis, Optimization and Quantitative Finance in honor of Terry Rockafellar’s 80th birthday*, Université de Limoges, France, 18–22 May, 2015.
- December 2012 *School and Workshop on Dynamic Games and its Applications*, Universidad Técnica Federico Santa María, Valparaíso, Chile, 12–21 December, 2012.
- June 2012 *Games and Strategy in Paris*, Institut Henri Poincaré, Paris, France, 11–13 June 2012.
- November 2011 *Optimization, Games, and Dynamics*, Institut Henri Poincaré, Paris, France, 28–29 November 2011.
- September 2009 *Conference on Variational Analysis and Optimization*, Université



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|              | Montpellier II, 60 anniversaire de H. Attouch, Montpellier, France, 9–12 September 2009.  |
| June 2009    | <i>Approximation and Optimization in Image Restoration and Reconstruction</i> , Porquerolles, France, 8–12 June 2009.   |
| May 2008     | <i>Sixièmes Journées Franco-Chiliennes d'Optimisation</i> , Laboratoire Imath, Université du Sud Toulon-Var, Toulon, France, 19–21 May 2008.                          |
| June 2007    | <i>Optimisation, Jeux et Dynamique de la Décision avec Coût au Changement : Modélisation et Algorithmes</i> , Université d'Avignon, Avignon, France, 25–27 June 2007. |
| April 2007   | <i>CODE 2007 : Conférence de la SMAI sur l'Optimisation et la Décision</i> , Institut Henri Poincaré, Paris, France, 18–20 April 2007.                                |
| October 2005 | <i>XII Congreso de Ingeniería de Transporte</i> , Valparaíso, Chile, 17–21 October 2005.  |

## REVIEWS

Reviewer in the following international journals :

- *Applied Mathematics and Computation*.
- *Computational & Applied Mathematics*.
- *Computational Optimization & Applications*.
- *IEEE Transactions on Image Processing*.
- *International Journal of Computer Mathematics*.
- *International Journal of Game Theory*.
- *Journal of Fixed Point Theory and Applications*.
- *Journal of Convex Analysis*.
- *Journal of Global Optimization*.
- *Journal of Industrial and Management Optimization*.
- *Journal of Mathematical Analysis and Applications*.
- *Journal of Mathematical Imaging and Vision*.
- *Journal of Optimization Theory and Applications*.
- *Mathematics of Operations Research*.
- *Mathematical Programming*.
- *Mathematical Reviews*.
- *Numerical Algorithms*.
- *Numerical Functional Analysis and Optimization*.
- *Optimization Methods & Software*.
- *Operations Research Letters*.
- *Optimization : A journal of Mathematical Programming and Operations Research*.

- *Pacific Journal of Optimization.*
- *RAIRO Operations Research.*
- *Revista de la Real Academia de Ciencias Exactas, Físicas y Naturales. Serie A. Matemática*
- *SIAM Journal on Imaging Sciences.*
- *SIAM Journal on Optimization.*

## OTHER

- Best score in “Prueba de Aptitud Matemáticas” (PAA, 2000).
- Outstanding student in years 2000, 2001, 2003, 2004, and 2005. This honor is obtained by the 5% of better students in the Facultad de Ciencias Físicas y Matemáticas of the Universidad de Chile.
- Grant “Universidad de Chile”, from March 2000 to December 2005, given by the Universidad de Chile. This grant financed all my engineering’s studies.
- Grant of Academic Excellence, given by the Department of Transport Engineering. This grant has financed one year (2006) of study of the MSc in transportation engineering. This grant is given to the best students of the master.
- Grant CONICYT for Ph.D. studies, given by the Chilean government. This grant financed my stay in France, the academic inscription, and medical assurance from January 2007 until December 2010.
- Technique assistance in the Internet site of the research workshop of GdR MOA “Dynamiques, Optimisation et Apprentissage”, 22–27 November, Valparaíso, Chile.
- Computing abilities : JAVA,  $\text{\LaTeX}$ , Scilab, Linux.
- Languages : Spanish (native language), French (advanced), and English (advanced).

Santiago de Chile, May 2017