

Veronica Piccialli

- Personal Data

1. Address: Dipartimento di Ingegneria Informatica e Ingegneria Civile, University of Rome Tor Vergata Via del Politecnico, 1 00133 Roma.
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- Education and current position

1. National qualification as Associate Professor November 2013.
2. Assistant professor, Dipartimento di Ingegneria Civile e Ingegneria Informatica, Faculty of Engineering, University of Rome Tor Vergata, May 2012-present.
3. Assistant professor, Dipartimento di Informatica, Sistemi e Produzione, Faculty of Engineering, University of Rome Tor Vergata, December 2010-May2012.
4. Assistant professor, Dipartimento di Ingegneria dell'Impresa, Faculty of Engineering, University of Rome Tor Vergata, October the 1st 2008-December the 15th 2010.
5. Two years post doc position, Department of Computer and Systems Science "Antonio Ruberti", Faculty of Engineering, Sapienza University of Rome, October the 1st 2007- September the 30th 2008.
6. One year appointment contract as researcher in the PRIN 2005 program: Problemi e metodi innovativi nell'ottimizzazione non lineare, Italy, Department of Computer and Systems Science "Antonio Ruberti", Faculty of Engineering, Sapienza University of Rome, 2006- 2007.
7. Two years appointment contract as researcher in the FIRB program: Large scale nonlinear optimization, Italy, Department of Computer and Systems Science "Antonio Ruberti", Faculty of Engineering, Sapienza University of Rome, 2003- 2006.
8. Philosophy doctor in "Operations Research" at Sapienza University of Rome. Final exam March the 8th, 2004.
9. Engineer qualification granted by Engineers Association of Rome, July, 2001.
10. Master degree in Computer Science Engineering summa cum laude, Sapienza University of Rome, May the 29th, 2000.

- Research Interests

1. Global Optimization
2. Nonlinear Optimization
3. Generalized Nash Equilibrium Problems
4. Semidefinite Programming
5. Max-cut problem
6. Hazmat transportation
7. Feature Selection

- Journal Papers

- [19] V. Cardellini, V. De Nitto Personé, V. Di Valerio, F. Facchinei, V. Grassi, V. Lo Presti, V. Piccialli (2015). A Game-theoretic approach to computation offloading in mobile cloud computing. To appear on *Mathematical Programming*.
- [18] G. Liuzzi, S. Lucidi, V. Piccialli (2015). Exploiting derivative-free local searches in DIRECT-type algorithms for global optimization. *Computational Optimization and Applications*, online first DOI: 10.1007/s10589-015-9741-9.
- [17] L. Bianco, M. Caramia, S. Giordani, V. Piccialli (2015). A Game-theoretic Approach for Regulating Hazmat Transportation. To appear on *Transportation Science*
- [16] L. Grippo, L. Palagi, M. Piacentini, V. Piccialli, G. Rinaldi. SpeeDP: An algorithm to compute SDP bounds for very large Max-Cut instances. *Mathematical Programming*, vol. 136, p. 353-373, ISSN: 0025-5610, doi: 10.1007/s10107-012-0593-0 (2012).
- [15] L. Grippo, L. Palagi, V. Piccialli. An unconstrained minimization method for solving low rank SDP relaxations of the max cut problem, *Mathematical Programming Series A*, vol. 126, n. 1, pp. 119-146 (2011).
- [14] A.Y. Alfakih, M.F. Anjos, V. Piccialli, H. Wolkowicz. Euclidean Distance Matrices, Semidefinite Programming, and Sensor Network Localization (a survey), *Portugaliae Mathematica*, vol. 68, n. 1, pp. 53-102 (2011).
- [13] F. Facchinei, V. Piccialli, M. Sciandrone. Decomposition Algorithms for Generalized Potential Games. *Computational Optimization and Applications*, vol.50, pp. 237-262 (2011).
- [12] D. di Serafino, G. Liuzzi, V. Piccialli, F. Riccio, G. Toraldo. A Modified Dividing RECTangles Algorithm for a Problem in Astrophysics. *Journal of Optimization Theory and Applications*, vol. 151, Number 1 (2011), 175-190, doi: 10.1007/s10957-011-9856-9 (2011).
- [11] G. Liuzzi, S. Lucidi, V. Piccialli. A DIRECT-based approach for large-scale global optimization problems, *Computational Optimization and Applications*, vol. 45, n. 2, pp. 353-375 (2010).

- [10] G. Liuzzi, S. Lucidi, V. Piccialli. A partition-based Global Optimization Algorithm, *Journal of Global Optimization*, vol.48, n. 1, pp. 113-128 (2010).
- [9] E. Campana, G. Liuzzi, S. Lucidi, D. Peri, A. Pinto, V. Piccialli. New Global Optimization Methods for Ship Design Problems, *Optimization and Engineering*, vol. 10, n.4, pp. 533-555 (2009).
- [8] L. Grippo, L. Palagi, V. Piccialli. Necessary and sufficient global optimality conditions for NLP reformulations of linear SDP problems, *Journal of Global Optimization*, vol. 44, n 3, pp. 339 - 348 (2009).
- [7] F. Facchinei, A. Fischer, V. Piccialli. Generalized Nash Equilibrium Problems and Newton methods, *Mathematical Programming Series B*, Vol. 117, n. 1-2, pages 163-194 (2009). **This paper is one of the eight most cited articles published on Mathematical Programming in 2009-2010.**
- [6] F. Facchinei, A. Fischer, V. Piccialli. On Generalized Nash Games and Variational Inequalities, *Operations Research Letters*, vol. 35, n. 2, pp. 159-164(2007).
- [5] S. Lucidi, V. Piccialli, M. Sciandrone. An Algorithm Model for Mixed Variable Programming. *SIAM Journal on Optimization*, November 2005, vol. 15, n. 4, pp. 1057 - 1084.
- [4] G. Liuzzi, S. Lucidi, V. Piccialli, M. Villani. Induction motors design by a mixed-variable approach. *Computational Management Science*, vol. 2, n. 3, pp. 213 - 228 (2005).
- [3] S. Lucidi, V. Piccialli. A derivative based algorithm for a particular class of mixed variable optimization problems. *Optimization Methods and Software*, vol.19, n.3-4, pp. 371-387 (2004).
- [2] G.Liuzzi, S.Lucidi, V.Piccialli, A.Sotgiu. A Magnetic Resonance device designed via global optimization techniques. *Mathematical Programming*, vol. 101, n. 2, pp. 339-364 (2004).
- [1] S. Lucidi, V. Piccialli. New Classes of Globally Convexized Filled Functions for Global Optimization. *Journal of Global Optimization*, vol. 24, pp. 219-236 (2002).

- **Book Chapters**

- [1] G. Liuzzi, S.Lucidi, V. Piccialli. Global optimization of simulation based complex systems. In G. Dellino, C. Meloni, (Eds.) *Uncertainty Management in Simulation-Optimization of Complex Systems: Algorithms And Applications*, Operations Research/Computer Science Interfaces Series, Springer, to appear.
- [2] L. Bianco, M. Caramia, S. Giordani and V. Piccialli. Operations research models for global route planning in hazardous material transportation. In Rajan Batta, Changhyun Kwon (Eds.), *Handbook of OR/MS Models in Hazardous Materials Transportation*, p. 49-101, Springer (2013).

- [3] L. Palagi, V. Piccialli, F. Rendl, G. Rinaldi, and A. Wiegele. Computational Approaches to Max-Cut. In M.F. Anjos and J.B. Lasserre (Eds.), Handbook of Semidefinite, Cone and Polynomial Optimization: Theory, Algorithms, Software and Applications, Springer, New York (2011).

- **Submitted papers**

- [1] L. Bravi, V. Piccialli, M. Sciandrone (2014). An optimization-based method for feature ranking in nonlinear regression problems. Submitted to IEEE Transactions on Neural Networks.
- [2] G. Di Pillo, G. Liuzzi, S. Lucidi, F. Rinaldi, V. Piccialli (2014). A DIRECT-type approach for derivative-free constrained global optimization. Submitted to Computational Optimization and Applications.

- **Technical Reports and Others**

- [1] V. Piccialli. Methods for solving Mixed Variable Programming Problems, Ph.D. Thesis. Department of Computer and Systems Science "Antonio Ruberti", Sapienza University of Rome. (2004)
- [2] N. Krislock, V. Piccialli, H. Wolkowicz. Robust Semidefinite Programming Approaches for Sensor Network Localization with Anchors. University of Waterloo Department of Combinatorics and Optimization Waterloo, Canada Research Report CORR 2006-12(2006).
- [3] G. Liuzzi, S. Lucidi, V. Piccialli. Partitioning techniques for global optimization. In V. De Simone, D. Di Serafino, G. Toaldo (Eds.) Recent Advances in Non-linear Optimization and Equilibrium Problems: a Tribute to Marco D'Apuzzo. Quaderni di Matematica - vol. 27 (2012).

- **Conference Presentations**

1. S. Lucidi, V. Piccialli, M. Sciandrone. An Algorithm Model for Mixed Variable Programming. "SIAM conference on Optimization". May 20th-22nd 2002, Toronto (Canada) (2002)
2. S. Lucidi, V. Piccialli, M. Sciandrone. A derivative Free Algorithm for Mixed Variable Programming. AIRO2002 September 9th-13th 2002, L'Aquila, Italy (2002)
3. S. Lucidi, V. Piccialli. New Classes of Globally Convexized Filled Functions. "The First Conference on Optimization Methods and Software". December 15th-18th 2002, Hangzhou, China (2002)
4. S. Lucidi, V. Piccialli. New Classes of Globally Convexized Filled Functions. AIRO2003 September 2003 2nd-5th, Venezia, Italy (2003)
5. V. Piccialli. Methods for solving Mixed Variable Programming Problems. McMaster Optimization Day May 10th 2004, Hamilton, Canada (2004)

6. G. Liuzzi, S. Lucidi, V. Piccialli, M. Villani. Induction Motors Design by a Mixed Variable Approach. Optimization2004 July 25th-28th 2004, Lisbon, Portugal (2004)
7. G. Liuzzi, S. Lucidi, V. Piccialli, M. Villani. Induction Motors Design by a Mixed Variable Approach. AIRO2004 September 7th-10th 2004, Lecce, Italy (2004)
8. G. Liuzzi, S. Lucidi, V. Piccialli. A New Global Optimization Method Based on the Use of Distributed Local Minimizations. SIAM2005 May 16th-19th 2005, Stockholm, Sweden (2005)
9. G. Liuzzi, S. Lucidi, V. Piccialli. New Global Optimization Method Based on the Use of Distributed Local Minimizations. AIRO2005 September 6th-9th 2005, Camerino (2005)
10. F. Facchinei, A. Fischer, V. Piccialli. Generalized Nash equilibrium problems and Newton methods. Waterloo, October 31st 2005, Computational mathematics colloquium (2005)
11. F. Facchinei, A. Fischer, V. Piccialli. Generalized Nash equilibrium problems and Newton methods. SIMAI2006, 22-26 May 2006, Ragusa (2006)
12. L. Grippo, L. Palagi, V. Piccialli. A class of nonlinear programming algorithms for a class of semidefinite programming problems. EURO 2006 July 2nd-5th 2006, Reykjavic (2006)
13. L. Grippo, L. Palagi, V. Piccialli. A class of nonlinear programming algorithms for a class of semidefinite programming problems. AIRO 2006 September 12th-15th 2006, Cesena (2006)
14. L. Grippo, L. Palagi, V. Piccialli. An unconstrained minimization method for solving low rank SDP relaxations of the max cut problem. International School of Mathematics "G. Stampacchia" Workshop new problems and innovative methods in nonlinear optimization July 31st - August 9th (2007)
15. L. Grippo, L. Palagi, V. Piccialli. An unconstrained approach for solving low rank SDP problems. AIRO 2007, September 5th-8th 2007, Genova (2007).
16. G. Liuzzi, S. Lucidi, V. Piccialli. "A DIRECT-based approach exploiting local minimizations for the solution of large-scale global optimization problems". NAO2008 Muscat, Oman April 6th-8th 2008.
17. F. Facchinei, A. Fischer, V. Piccialli, M. Sciandrone. Decomposition Algorithms for Generalized Potential Games. Dresden, June 3rd 2008.
18. F. Facchinei, V. Piccialli, M. Sciandrone. Decomposition Algorithms for Generalized Potential Games. AIRO2008, Ischia, September 8th-11th 2008.
19. V. Piccialli. Regularization methods for solving linear semidefinite programming problems. Firenze, June 23th 2009.
20. L. Bianco, M. Caramia, S. Giordani, V. Piccialli. Regulating HazMat Transportation: a game theory approach. ISMP09, Chicago, August 23-28th 2009.

21. L. Bianco, M. Caramia, S. Giordani, V. Piccialli. Regulating HazMat Transportation: a game theory approach. AIRO09, Siena, September 8-11th 2009.
22. L. Grippo, L. Palagi, M. Piacentini, V. Piccialli, F. Rendl, G. Rinaldi, A. Wiegele. SpeeDP: a fast method for solving the SDP relaxation of Max Cut. Invited Speaker EWMINLP, Marseille, April 12th-16th 2010.
23. L. Grippo, L. Palagi, M. Piacentini, V. Piccialli, F. Rendl, G. Rinaldi, A. Wiegele. SpeeDP: a fast method for solving the SDP relaxation of Max Cut. First Alpen-Adria Workshop on Optimization 2010, University of Klagenfurt (Austria) June 3rd-6th 2010.
24. L. Grippo, L. Palagi, M. Piacentini, V. Piccialli, G. Rinaldi. Max-Cut Heuristics for Huge Graphs. Invited Speaker Algorithms and Optimization in Action, IASI CNR, Rome, November 25, 2011.
25. V. Piccialli, F. Facchinei, V. Cardellini, V. Di Valerio, V. Grassi, F. Lo Presti, V. De Nitto Personè. Cyber foraging as a generalized Nash equilibrium problem. EUROPT 2013, Firenze, June 25-28, 2013.
26. V. Piccialli, F. Facchinei, V. Cardellini, V. Di Valerio, V. Grassi, F. Lo Presti, V. De Nitto Personè. Non-cooperative computation offloading in mobile cloud computing, ICCOPT 2013, Caparica, Lisbon, Portugal, July 27th-August 1st, 2013.
27. L. Bravi, V. Piccialli, M. Sciandrone. A Feature Ranking Method for Nonlinear Regression. INFORMS 2014, San Francisco, California, November 9-12, 2014.

- Academic Services

Reviewer for the following journals:

1. SIAM Journal on Optimization
2. Mathematical Programming
3. Journal of Global Optimization
4. Optimization and engineering
5. Journal of Optimization Theory and Applications
6. Journal of Computational and Applied Mathematics
7. European Journal of Operational Research

- Professional Experience

1. Appointment contract as researcher in the PRIN 2005 program: Problemi e metodi innovativi nell'ottimizzazione non lineare, Italy, November 2006-October 31st, 2007.
2. Appointment contract as researcher in the FIRB program: Large scale nonlinear optimization, November 2003-October 2006.
3. Postdoctoral fellowship, Department of Combinatorics and Optimization, University of Waterloo, September 2005- March 2006.

4. Visiting scholar, University of Waterloo, Department of Combinatorics and Optimization, invited by Prof. Henry Wolkowicz, April-June 2004.

- **Teaching Experience**

1. Teaching Assistant of the course Operations Research (2000/01 and 2001/02), Diploma in Ingegneria Informatica at Sapienza University of Rome.
2. Teaching Assistant of the course Operations Research (2001/02) Computer Science Engineering, at Sapienza University of Rome.
3. Teaching Assistant of the course Nonlinear Optimization of Management Engineering, at Sapienza University of Rome (2001/02, 2002/03, 2003/04, 2004/05, 2006/07, 2007/08).
4. Ten lectures on the topic Derivative Free Optimization as part of the Continuous Optimization course for the Ph.D. in Systems Science Engineering Sapienza University of Rome, April 2004.
5. Teacher of the course Operation Research of Transportation Engineering, at Sapienza University of Rome (2005).
6. Teaching Assistant of the course Operations Research (2005/2006) Computer Science Engineering, at Sapienza University of Rome.
7. Ten lectures on the topic Semidefinite Programming as part of the Continuous Optimization course for the Ph.D. in Systems Science Engineering at Sapienza University of Rome, April 2005.
8. Teacher of the course Operation Research of Computer Science Engineering, at Sapienza University of Rome in Rieti, 2007/2008.
9. Teacher of the course Queue Theory of Management Engineering, at University of Rome Tor Vergata, 2008/09.
10. Twenty lectures on the topic Semidefinite Programming as part of the Continuous Optimization course for the Ph.D. in Systems Science Engineering at Sapienza University of Rome, February 2010.
11. Eight hours course as invited senior scientist at the EURO Summer Institute 2010 at the University of Klagenfurt, Austria, August 20 - September 4, 2010.
12. Teacher of the master course Operations Research of Computer Science Engineering, at University of Rome Tor Vergata, 2011/12.
13. Teacher of the master course Optimization of Management Engineering, at University of Rome Tor Vergata, 2009/10, 2010/11, 2011/12, 2012/13, 2013/14, 2014/15.