# MASSIMILIANO AMARANTE

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## **EDUCATION**

Ph. D., Economics, MIT, 1999 Laurea in Economia e Commercio, Universita' degli Studi di Roma "La Sapienza", 1993

## ACADEMIC APPOINTMENTS

Université de Montréal Département de sciences économiques 2007 – present, Professeur agrégé

Columbia University, New York, Department of Economics 2005 – 2008 Associate Professor

Columbia University, New York, Department of Economics 1999 – 2005 Assistant Professor

#### **OTHER POSITIONS**

Center for Capitalism and Society, Columbia University: Foreign Member, 2011 - present

Research Fellow CIREQ, 2007 - present

Melbourne Business School August 2019, Visiting Professor

Universita' Bocconi Department of Decision Sciences 2016, Visiting Professor Collegio Carlo Alberto, Universita' di Torino Department of Statistics and Applied Mathematics 2007, Visiting Fellow

University of Minnesota, Department of Economics Spring 2003, Visiting Assistant Professor

MIT, Department of Economics: 1998, Instructor

#### TEACHING:

*Graduate*: Decision Theory, Game Theory, Mathematics, Microeconomics, Industrial organization, Economics of Innovation *Undergraduate*: Decision Theory, Mathematical Economics, Calculus

#### **GRANTS AND HONORS**:

Economic Journal Referee Prize 2016 SSHRC research grant 2011-2014 Plenary speaker: The 18<sup>th</sup> International Conference on Game Theory, Stony Brook 2007 Kauffman Foundation research grant (co-investigator; PI Edmund Phelps), 2006 Columbia University Academic Quality Fund award (with Emel Filiz), 2004 Best Graduate Advisor 2002-03, Columbia University Columbia University Council Grant for Research in Social Sciences, 2003 Outstanding Graduate Instructor 2000-01, Columbia University Columbia University Council Grant for Research in Social Sciences, 2000 "Young Italian Economist of the Year", Il Sole/24 Ore, 1999 Fellowship, MIT, 1997-99 Scholarship, Bank of Italy, Roma, Ente "Luigi Einaudi", 1996-97 Scholarship, Roma, Banca Nazionale del Lavoro, "Guido Carli", 1995-96 Scholarship, Torino, Fondazione "Luigi Einaudi", 1994-95 *Dignita' di stampa*, Special mention of the Faculty for undergraduate thesis, 1993

#### PUBLISHED PAPERS:

[22] "Aggregation of Opinions and Risk Measures" (with M. Ghossoub), forthcoming *Journal of Economic Theory*, <u>https://doi.org/10.1016/j.jet.2021.105310</u>

[21] **"Recursive Maxmin Preferences and Rectangular Priors: a Simple Proof"** (with M. Siniscalchi), *Economic Theory Bulletin* 7, 125-29, May 2019.

[20] **"The Sandwich Theorem via Pataraia's fixed point theorem"**, *Positivity* 23, 97-100, February 2019.

[19] **"Sandwich Theorems for set functions: An application of the Lehrer-Teper integral"**, *Fuzzy Sets and Systems* 355, 59-66, January 2019.

[18] **"Mm-OWA: a generalization of OWA operators"**, *IEEE Transactions on Fuzzy Systems* 26, 2099-2106, August 2018.

[17] **"Information and Ambiguity: toward a foundation of non-Expected Utility"**, *Mathematics of Operations Research* 42, 1254-1279, November 2017.

[16] "Contracting on ambiguous prospects" (with M. Ghossoub and E. Phelps), *The Economic Journal* 127, 2241-2262, November 2017.

[15] "Uniqueness of the weights in Harsanyi-type theorems", *Economic Theory Bulletin* 5, 175-178, October 2017.

[14] "Conditional expected utility" Theory and Decision 83, 175–193, August 2017.

[13] **"A representation of risk measures"**, *Decisions in Economics and Finance* 39, 95-103, April 2016.

[12] **"Optimal Insurance for a Minimal Expected Retention: The Case of an Ambiguity-Seeking Insurer"** (with M. Ghossoub ), *Risks* 4, <u>http://www.mdpi.com/2227-9091/4/1/8/html</u>, March 2016.

[11] **"Analogy in Decision Making"**, *Mathematics of Operations Research* 40, 1027-41, November 2015.

[10] **"Ambiguity on the insurer's side: the demand for insurance"** (with M. Ghossoub and E. Phelps), *Journal of Mathematical Economics* 58, 61 -78, May 2015.

[9] **"A characterization of exact non-atomic market games"**, *Journal of Mathematical Economics* 54, 59-62, October 2014.

[8] **"The Bargaining set of a large game**" (with L. Montrucchio), *Economic Theory* 43, 313-49, June 2010.

[7] **"Foundations of Neo-Bayesian Statistics"**, *Journal of Economic Theory* 144, 2146-73, September 2009.

[6] **"Ambiguous Events and Maxmin Expected Utility"** (with E. Filiz), *Journal of Economic Theory* 134, 1-33, May 2007.

[5] **"Cores of Non-atomic Market Games"** (with F. Maccheroni, M. Marinacci and L. Montrucchio), *International Journal of Game Theory* 34, 399-424, October 2006.

[4] **"When an event makes a difference"** (with F. Maccheroni), *Theory and Decision* 60, 119-26, May 2006. Reprinted in *Uncertainty and Risk*, by M. Abdellaoui, R.D. Luce, M.J. Machina and B. Munier (editors), p. 27-32, Springer 2007.

[3] **"Ambiguity, Measurability and Multiple Priors"**, *Economic Theory* 26, 995-1006, November 2005.

[2] **"On the uniqueness of convex-ranged probabilities"**, *Decisions in Economics and Finance* 27, 81-85, August 2004.

[1] **"Recursive Structure and Equilibria for Games with Private Monitoring**", *Economic Theory* 22, 353-374, September 2003.

## **OTHER PUBLICATIONS:**

[23] **"Risk, Uncertainty and the Entrepreneurial Economy"** (with O. Ozgur and E. Phelps), Proceedings of the 8<sup>th</sup> International Conference on Applied Financial Economics, C. Prachalias ed., Vol. 2, 550-554, 2011.

#### PAPERS SUBMITTED/UNDER REVISION:

[24] **"A unified framework for Bayesian and non-Bayesian decision making and inference"**, R&R *Mathematics of Operations Research* 

[25] **"Bipolar behavior of submodular, law-invariant capacities"**, R&R *Statistics & Risk Modeling* 

#### WORKING PAPERS:

[26] "Updating capacities and dynamic consistency: a false start in non-Bayesian inference"

[27] "Dynamically inconsistent rationality"

[28] **"A closed-form solution for innovation contracts"** (with M. Ghossoub and E.S. Phelps)

[29] "Spectral risk measures: a characterization"

[30] **"The leveling of a capacity"** (with M. Ghossoub)

[31] **"359 years"** 

### **OTHER PAPERS**:

[32] "Equivalence of Public Mixed-Strategies and Private Behavior Strategies in Games with Public Monitoring", Columbia University, DP No. 0203-22.

[33] **"Extraction of the surplus in standard auctions"** Columbia University, DP No. 0102-73.

[34] **"Toward a rational-choice foundation of non-additive theories"**, CIREQ WP 13-2009.

[35] "Analogical Reasoning in Decision Processes", Columbia University DP 0506-17.

[36] **"States, models and information: A reconsideration of Ellsberg's paradox",** Columbia University DP 2006.

[37] **"Contracting for Innovation under Ambiguity"** (with M. Ghossoub and E. Phelps), The Center on Capitalism and Society Working Paper No. 75, 2012.

#### ACADEMIC PRESENTATIONS:

**2020:** RUD 2020, QMU London

2019: Melbourne Business School; Universita' Bocconi, Milan

2018: Durham University; Johns Hopkins University; University of Maryland

2017: University of Bath; RUD 2017, London Business School; SMU, Dallas

2016: University of Glasgow; East Anglia University; University of Birmingham

2014: University of Copenhagen; IEA World Congress 2014, Dead Sea (invited speaker)

2013: Rutgers University; AMMCS 2013, Waterloo; SAET 2013, Paris

2012: UT Austin; Petralia Workshop; RUD 2012, Northwestern University

**2011:** Université de Montréal; Center for Capitalism and Society, Columbia University; RUD 2011, Torino

**2010:** University of Wisconsin Madison; RUD 2010, Paris (declined); University of Southern California

2009: Queen's University; University of British Columbia

**2007:** The 18<sup>th</sup> International Conference on Game Theory, Stony Brook 2007 (Plenary talk); Northwestern University; Collegio Carlo Alberto, Turin

**2006:** UC Berkeley; UPenn; Université de Montréal (Fall); RUD 2006, Paris; FUR 2006, Rome; CETC 2006, Toronto; Université de Montréal (Spring)

2005: Yale University; SAET 2005, Vigo

2004: University of Iowa; University of Rochester

**2003:** CalTech; Columbia University; University of Minnesota; University of Rochester; UT Austin; Rutgers University; University of Turin; RUD 2003, Milan

2002: Ohio State University; SED 2002, NYU

**1999:** UT Austin; University of Rochester; Northwestern University, MEDS; UCLA; CalTech; Columbia University (spring); NYU; University College of London; Universita' Bocconi, Milan; Universita' di Bologna; Universita' Federico II, Naples; Ente Einaudi, Rome; Columbia University (Fall)

**1998:** Northwestern, Summer Microeconomics Conference; Summer in Tel Aviv; Econometric Society, NASM98

#### PROFESSIONAL ACTIVITIES:

Scientific Committee: RUD 2010 - present

**Referee:** Applied Mathematics-A Journal of Chinese Universities, Decisions in Economics and Finance, Econometrica, Economic Journal, Economic Theory, Economics Dynamics, Games and Economic Behavior, IEEE Transactions on Fuzzy Systems, Information Sciences, Insurance: Mathematics and Economics, International Journal of Mathematics and Mathematical Sciences, Journal of Artificial Intelligence Research, Journal of Economic Theory, Journal of Japanese and International Economies, Journal of Mathematical Economics, Journal of Systems Science and Systems Engineering, Positivity, Review of Economic Design, Review of Economic Studies.

**Reviewer:** Israel Science Foundation, National Science Foundation, French National Research Agency (ANR), SSHRC (Canada).

## **<u>POST-DOCTORAL STUDENTS</u>** (with placement; main advisor):

Mario Ghossoub (2013), Imperial College London

## **Ph.D. STUDENTS (with placement; main advisor):**

Paulo Barelli (2004), University of Rochester.

Emel Filiz (2007), University of Maryland.