## ANTONIO PENTA CURRICULUM VITAE (October 2022)

## **Current Appointments**

2018-present: ICREA Research Professor at Universitat Pompeu Fabra 2017-present: Professor of Economics, Universitat Pompeu Fabra 2017-present: Affiliated Professor, Barcelona School of Economics

#### Other Affiliations

2019-present: member, TSE Digital Center

2018-present: Associate Faculty at Toulouse School of Economics

#### **Editorial Positions**

Member of the Editorial Board

- American Economic Review (since 2020)
- Review of Economic Studies (since 2020)

#### Associate Editor

- *Journal of Economic Theory*(since 2016)
- Theoretical Economics (since 2019)
- Decisions in Economics and Finance (since 2022)

#### **Previous Appointments**

2016-2018: Associate Professor of Economics (with tenure), UW-Madison (on leave since 09/2017)

2010-2016: Assistant Professor in Economics, Univ. of Wisconsin-Madison (on parental leave in S.2016)

2008-2010: Research Assistant, University of Pennsylvania.

Spring 2008: Instructor, University of Pennsylvania.

Fall 2005-Fall 2007: Teaching Assistant, University of Pennsylvania.

#### Education

May 2010: Ph.D. in Economics, University of Pennsylvania

May 2008: M.A. in Economics, University of Pennsylvania.

June 2006: Summer Institute in Behavioral Economics (Trento; organized by Russell Sage Foundation)

May 2004: Laurea in Economics, Bocconi University, Milan, Italy (summa cum laude)

## Awards, Grants and Fellowships

2021: Economic Journal, Referee Prize

2021: Journal of the European Economic Association Excellence in Refereeing Award

2018-2023: ERC-Starting Grant, European Research Council, #759424 (PI, ~1,480,000 euros)

2019-2021: Spanish Commission of Science: PGC2018-098949-B-I00 (non-PI,≃85,000 euros)

2016-2018: Juli Plant Grainger Senior Fellow in Economics, UW-Madison (on leave from 09/2017)

Graduate School Research Committee Grant, UW-Madison (Five times: 2010 (\$44,843), 2011 (\$53,259), 2012

(\$20,367), 2014 (\$52,850), 2016 (\$27,940-declined))

2013: McKenzie Prize for Excellence in Research, UW-Madison

2013: Summer Grant, NET Institute

2011: William Polk Carey Prize in Economics, University of Pennsylvania

(awarded annually for the best doctoral dissertation in the Penn Economics Ph.D. program.)

2010-2013: Maude P. and Milton J. Shoemaker Fellow in Economics, UW-Madison

2009: David Cass/Beth Hayes Prize for Graduate Research Accomplishment in Economics, UPenn (awarded biennially for the best research contribution in the preceding two years in the Penn Econ. Ph.D. program.)

2008: Fondazione L. Einaudi "Mario Pannunzio" prize, offered by Accademia dei Lincei

2004-2010: University of Pennsylvania Fellowship for Doctoral Studies

2004: Gold Medal for Best Graduates, Bocconi University

#### **Teaching Awards**

2014: Best Teacher Award (in the Ph.D. Program), Dept. of Economics, UW-Madison.

2011: Honored Instructors Award, UW-Madison.

2010: Honored Instructors Award, UW-Madison.

2008: Joel Popkin Graduate Student Teaching Prize in Economics, UPenn.

2007: Kudos Penn Teaching Assistant Prize, UPenn

Areas of Research: Game Theory; Mechanism Design; Auctions; Bounded Rationality; Decision Theory

## Working Papers

- "Backward Induction Reasoning beyond Backward Induction (with E. Catonini)
- "Safe Implementation" (with M. J. Gavan)
- "Coordination and Sophistication" (with L. Alaoui and K. A. Janezic)

#### **Publications**

## Articles in Journals (Economics)

- "A Network Solution to Robust Implementation: the case of Identical but Unknown Distributions" (with M. Ollár), accepted, Review of Economic Studies
- "Bid Coordination in Sponsored Search Auctions: Detection Methodology and Empirical Analysis" (with F. Decarolis, M. Goldmanis, and K. Shakhgildyan), *Journal of Ind. Econ*, forthcoming
- "Cost-Benefit Analysis in Reasoning" (with Larbi Alaoui), *Journal of Political Economy*, Vol. 130(4), April 2022.
- "Efficient Implementation via Transfers: Uniqueness and Sensitivity in Symmetric Environments" (with M. Ollár), AEA papers and proceedings, vol.112: 438-443, 2022.
- "Rationalizability, Observability and Common Knowledge" (with P. Zuazo-Garin), Review of Economic Studies, Vol. 89, Issue 2, March 2022: 948–975.
- "Marketing Agencies and Collusive Bidding in Online Ad Auctions" (with Francesco Decarolis and Maris Goldmanis) *Management Science*, Vol.66, No 10, 4433-4454, November 2020.
- "Reasoning about Others' Reasoning" (with Larbi Alaoui and Katharina A. Janezic), *Journal of Economic Theory*, Vol.189, 105091, August 2020.
- "Full Implementation and Belief Restrictions" (with Mariann Ollár), American Economic Review, Vol 107, Issue 8 (2017): 2243-77.
- "Endogenous Depth of Reasoning" (with Larbi Alaoui), Review of Economic Studies, Vol 83, Issue 4 (2016): 1297-1333.
- "Robust Dynamic Implementation", Journal of Economic Theory, Vol. 160 (December 2015), 280–316.
- "On the Structure of Rationalizability for Arbitrary Spaces of Uncertainty," *Theoretical Economics*, Volume 8, Issue 2 (May 2013), 405-430.
- "Higher Order Uncertainty and Information: Static and Dynamic Games," *Econometrica*, Vol. 80, No. 2 (March, 2012), 631-660.
- "Multilateral Bargaining and Walrasian Equilibrium," *Journal of Mathematical Economics*, Vol. 47 (4-5), August-October 2011, pp. 417-424.
- "Interactive Epistemology and Solution Concepts for Games with Asymmetric Information," (joint with: Pierpaolo Battigalli, Alfredo Di Tillio, Edoardo Grillo) *The B.E. Journal of Theoretical Economics* (Advances): Vol. 11: Iss. 1, Article 6.

## Articles in Journals (Computer Science -- peer reviewed)

- "A Price-Per-Attention Auction Scheme using Cursor Information", (joint with I. Arapakis, H. Joho and L. Leito), ACM-Transactions On Information Systems, January 2020, article 13.

## Articles and Chapters in Edited Volumes

- "Chapter X: Unraveling in Guessing Games: An Experimental Study (by Rosemarie Nagel)" (this is a review of Nagel's (AER, 1995) paper, joint with John Kagel) in *The Art of Experimental Economics. 20 Top Papers Reviewed*, ed. by G. Charness and M. Pingle, Routledge, NY, (2021).
- "Recent Developments in Online Ad Auctions", (with F. Decarolis and M. Goldmanis), in Economic

- Analysis of the Digital Revolution ed. J. Ganuza and G. Llobet -- Funcas, Madrid (2018)
- "Robustness of the Uniqueness of Walrasian Equilibrium with Log-Linear Utilities," (joint with: D. Cass, A. Borah, K. Kim, M. Kryshko and J. Pogach) in *The Collected Scientific Work of David Cass Part C*, ed. S. Spears, Emerald Group Publishing Limited (2011)
- "Voting," (joint with: J. Pogach, A. Sandroni, D. Selman, M. Tincani) for the Encyclopedia of Complexity and Systems Science Ed.: Robert A. Meyers Springer (2009)

## Work-in-progress

- "Generalized Incentive Compatible Transfers" (with M. Ollár)
- "Measuring Complementarities in Vertical Markets: Evidence from the Digital Advertising Industry" (with A. Chiantello, F. Decarolis and M. Goldmanis)
- "Attitudes Towards Failure and Success" (with L. Alaoui)
- "Fear of Leaks and Payoff Uncertainty" (with P. Zuazo-Garin)

## Invited Seminars (including scheduled):

2022-2023: Princeton, Warwick, Venice (Ca' Foscari, dept. seminar), Singapore Management University, Liverpool.

2021-2022: Columbia, Cornell, Alicante, IAE-UAB, Oxford (dept. seminar), ACM (Dutch competition authority), Kyoto Univ. - Osaka Univ. - National Taiwan Univ.- Hong-Kong Baptist Univ. - Academia Sinica (online joint theory seminar), Glasgow (online), Collegio Carlo Alberto, Toronto (online), Univ. Carlos III, Brown (online).

2020-2021: Yale (online), Bocconi (EGT Reading Group, online), Caltech (online), LSE (online), Oxford (Nuffield LGN seminar, online), Edinburgh (online), CUHK-HKU-HKUST (Hong-Kong joint theory seminar, online), Nottingham (CeDEx, online) -- postponed for COVID-19: NYU-Abu Dhabi, ESADE, IAE-UAB.

2019-2020: Univ. of Zurich, Higher School of Economics (Moscow) -- postponed for COVID-19: Oxford, Princeton, Edinburgh.

2018-2019: Bar-Ilan Univ., Tel-Aviv Univ., Hebrew Univ. of Jerusalem, Bonn, European University Institute (Florence), Univ. of Bologna, UPV/EHU (Bilbao)

2017-2018: CERGE-EI, Paris School of Economics (Roy Econ-Theory seminar), Groningen, Toulouse School of Economics, Universitat Pompeu Fabra (internal micro)

2016-2017: Ohio State, Univ. College London, Bocconi, Queen Mary Univ., Georgetown, Cambridge, London Business School, UC-San Diego.

2015-2016: Cambridge, Minnesota.

2014-2015: NYU, Oxford (Nuffield)

2013-2014: Harvard-MIT, Boston Univ., Princeton, Stanford, Columbia, University of Toronto, University of Minnesota, University of Illinois, UW-Madison, Universitat Pompeu Fabra.

2012-2013: UW-Madison, Carnegie-Mellon Univ., NYU (CESS), UCLA, Northwestern.

2011-2012: UW-Milwaukee, University of Michigan, Arizona State, Duke, University of Toronto.

2010-2011: Univ. of Iowa, Univ. of Montreal, Georgetown Univ., Toulouse School of Economics, Collegio Carlo Alberto, University of Bonn.

2009-2010: University of Pennsylvania, Purdue, Maastricht, Penn State, UC-Berkeley, UW-Madison, Rochester, Collegio Carlo Alberto, Bocconi.

2007-2009: Bocconi, Univ. of Pennsylvania.

## Conferences (Including Scheduled):

#### Co-organizer and Committee Member:

2022 BSE Summer Forum, Coordination and Social Interactions

2022 BSE Summer Forum, Preferences and Bounded Rationality

2020 Barcelona GSE Summer Forum, Bounded Rationality, Cognition and Strategic Uncertainty -- (cancelled for COVID-19 crisis)

2019 Barcelona GSE Summer Forum, Bounded Rationality, Cognition and Strategic Uncertainty

- 2018 Barcelona GSE Summer Forum, Bounded Rationality, Cognition and Strategic Uncertainty
- 2017 Barcelona GSE Summer Forum, workshop: Limited Reasoning, Cognition and Coordination
- 2016 Barcelona GSE Summer Forum, workshop: Limited Reasoning, Cognition and Coordination
- 2015 Barcelona GSE Summer Forum, workshop: Limited Reasoning and Cognition

## Member of the Program Committee:

- 2023 Congress of the European Economic Association, Barcelona (Spain); Lead Committee Coordinator of the Economic Theory area.
- 2022 Congress of the European Economic Association, Milan (Italy); Lead Committee Coordinator of the Economic Theory area.
- 2021 EWMES Econometric Society European Winter Meeting, Barcelona (Spain)
- 2021 ESEM: Econometric Society European Meeting, Copenhagen (Denmark).
- 2020 SAEe: 45th Simposio of the Spanish Economic Association, Univ. of Salamanca (Spain)
- 2020 LOFT XIV: 14th Conference on Logic and the Foundations of Game and Decision Theory,
- Univ. of Groningen (Netherlands), 2020 -- postponed to 2021due to COVID-19 crisis
- 2019 ESEM: Econometric Society European Meeting, Univ. of Maastricht (Netherlands).
- 2018 ESEM: Econometric Society European Meeting, Univ. of Cologne (Germany).
- 2018 LOFT XIII: 13th Conference on Logic and the Foundations of Game and Decision Theory, Bocconi Univ. (Milan, Italy), 2018
- 2018 NASMES: North American Summer Meetings of the Econometric Society, UC-Davis;
- 2017 XV-SAET Conference on Mathematical Economics, Faro (Portugal) (session organizer)
- 2016 NASMES: North American Summer Meetings of the Econometric Society, UPenn (USA).
- 2016 LOFT XII: 12th Conference on Logic and the Foundations of Game and Decision Theory, Maastricht (Netherlands).
- 2014 NSF/NBER Conference on General Equilibrium and Mathematical Economics, UW-Madison
- 2014 LOFT XI: 11th Conference on Logic and the Foundations of Game and Decision Theory, Bergen (Norway).
- 2013 TARK XIV: Theoretical Aspects of Rationality and Knowledge, Chennai (India).

#### **Invited Conferences:**

- 2021: Economic Theory Workshop, Univ. of Bonn
- 2021: Semi-Plenary Speaker, GAMES 2020.1: 6th World Congress of the Game Theory Society (Budapest, Hungary) -- postponed from 2020 due to COVID-19 crisis
- 2021: discussant, CalTech, online economic theory seminar
- 2019: Keynote Speaker, Behavioral Research in Economics Workshop (IIM, Ahmedabad, India)
- 2019: Keynote Speaker, ICEF Microeconomics Workshop (Moscow, Russia)
- 2019: Workshop on "New Directions in Mechanism Design", (Stony Brook, NY, USA)
- 2019: XIX-SAET Conference on Mathematical Economics, Ischia (ITA)
- 2019: Warwick Economic Theory Workshop, Univ. of Warwick (UK)
- 2018: UBC-HKU Summer Workshop in Economic Theory, Vancouver (CAN)
- 2018: Warwick Economic Theory Workshop, Univ. of Warwick (UK)
- 2018: Sixth Southampton-Bristol Workshop in Economic Theory, Southampton (UK)
- 2017: Workshop on Reasoning About Strategic Interaction and Emotions, Bocconi, Milan (ITA)
- 2017: XV-Barcelona GSE Trobada, Universitat Autònoma de Barcelona. (ESP)
- 2017: SISL Summer Conference on Misspecification, Robustness, Causality and the Design of Experiments (Caltech, USA)
- 2017: HKU-UBC Summer Workshop in Economic Theory, Hong-Kong University (HK)
- 2016: invited participant, 25th European Summer Symposium in Economic Theory, Gerzensee (SUI)
- 2015: XIII-SAET Conference on Mathematical Economics, Cambridge (UK).
- 2014: Workshop on Cognitive Skills and Strategic Reasoning, at WZB in Berlin, (GER).
- 2014: XII-SAET Conference on Mathematical Economics, Tokyo (JAP).
- 2013: XI-SAET Conference on Mathematical Economics, Paris (FR).
- 2012: discussant, ES North American Winter Meetings

#### **Contributed Presentations:**

2022: ESA-2022: Economic Science Association Conference, Bologna (Italy)

2018: LOFT XIII: 13th Conference on Logic and the Foundations of Game and Decision Theory, Bocconi Univ. (Milan, Italy)

2015: Econometric Society World Congress-ESWC2015, Montreal (Canada)

2013: Canadian Economic Theory Conference 2013, Concordia University, Montreal (Canada)

2012: ES Winter North American Meetings (Chicago);

2012: LOFT X: 10th Conf. on Logic and the Foundations of Game and Decision Theory (Sevilla);

2012: GAMES 2012 Fourth Congress of the Game Theory Society (Istanbul);

2011: X-SAET Conference on Mathematical Economics, Faro (Portugal);

2010: NSF/NBER/CEME Conference on General Equilibrium and Mathematical Economics, at NYU;

2010: Workshop on Recent Developments in Mechanism Design, Princeton (NJ, USA);

2009: IX-SAET Conference on Mathematical Economics, Ischia (Italy);

2009: Workshop on Information and Dynamic Mechanism Design, Bonn (Germany);

2008: ESEM-EEA 2008, Milan (Italy);

2008: North-American Summer Meeting of the Econometric Society, Pittsburgh (PA, USA);

2008: 4th CARESS-COWLES Conference on General Equilibrium and its Applications;

2007: VIII-SAET Conference on Mathematical Economics, Kos (Greece).

#### **Academic Visits**

Toulouse School of Economics, regular visits, 2018-present University of Primorska, August 2018
Cambridge Univ., INET, November 2015
Oxford Univ., Nuffield College, May 2015
University of Pennsylvania, April 2015
Universitat Pompeu Fabra, June-July 2014, January and June 2015
Northwestern Univ., Center for Economic Theory, May 2013
Collegio Carlo Alberto, June 2011

#### **Editorial and Refereeing Activities:**

- Member of the Editorial Board, American Economic Review, 2020-present
- Member of the Editorial Board, Review of EconomicStudies, 2020-present
- Associate Editor, Theoretical Economics, 2019-present
- Associate Editor, Journal of Economic Theory 2016-present
- Associate Editor, Decisions in Economics and Finance, 2022-present
- Referee for: American Economic Review, Econometrica, Review of Economic Studies, Quarterly Journal of Economics, Theoretical Economics, Journal of Economic Theory, Economic Journal, Games and Economic Behavior, Journal of Economic Literature, Quantitative Economics, American Economic Journal: Microeconomics, European Economic Review, Economics and Philosophy, International Economic Review, Journal of the European Economic Association, Journal of Mathematical Economics, International Journal of Game Theory, Journal of Economic Behaviour and Organization, Berkeley Electronic Journal of Economic Theory, Theory and Decision, Economica, Mathematics of Operations Research, Journal of Strategy and Management, Review of Industrial Organization, Review of Managerial Science.
- Scientific Reviewer: European Research Council; ANVUR: Italian National Agency for the Evaluation of Universities and Research Institutions; Netherlands Organisation for Scientific Research; NSF: National Science Foundation; BSF: US-Israel Binational Science Foundation; CIREP: UPF's Institutional Commission for Ethical Review of Projects.

## Teaching experience:

#### (at UPF and Barcelona School of Economics)

Advanced Microeconomics II (Core course for M.Res. and Ph.D. students -- General Equilibrium and Game Theory; 2018-present)

- Topics in Economic Theory III (for Ph.D. students Incomplete Information and Mechanism Design)
- Game Theory and Mechanism Design (for undergrads; 2018-present)
- Competition in Digital Markets (2021: BSE Executive Course, co-taught with M.Motta, C.Fumagalli, G.Kultai, and M.Peitz).
- Competition in Digital Markets (2022: BSE Professional Course, co-taught with M.Motta, C.Fumagalli, G.Kultai, and M.Peitz).
- Digital Economics (2020-2022: BSE Master course, co-taught with J.Ganuza and R.Ferrer)
- Industrial Organization (2021-2022: BSE Master course, co-taught with S.Shelegia and R.Ferrer)
- Summer Course on 'Digital Economics' (2019: co-taught with J.Ganuza and R.Ferrer)
- Economic Methods for Data Science (2019: Core course for DataScience Master students -- co-taught with N.Rao and C.Calsamiglia)

## (at UW-Madison)

- Econ-521 Game Theory and Economic Applications (for undergrads; two times)
- Econ-805 Advanced Economic Theory I (for Ph.D. students; four times)
- Econ-806 Advanced Economic Theory II (for Ph.D. students; three times)
- Econ-111 Principles of Economics Accelerated Treatment (undergraduate honors; five times)

## (at UPenn)

As Main Instructor: Intermediate Macroeconomics (Spring 2008).

## As Teaching Assistant/Recitation Instructor:

- Fall 2007: T.A and R.I. for Introductory Macroeconomics (main instr.: Dr. Gwen Eudey)
- Spring 2007: T.A for Economics of Labor (main instr.: Prof. Kenneth Burdett)
- Fall 2006: T.A and R.I. for Introductory Microeconomics (main instr.: Dr. Rebecca Stein)
- Fall 2005 & Spring 2006: T.A. for International Economics (main instr.: Prof. Stephen Yeaple)

# Advised Students (role; year of completion): (at UPF)

Ph.D. Thesis: Katharina A. Janezic (letter writer; 2021); Malachy Gavan (advisor, ongoing); Andrea Salvanti (advisor, ongoing)

M.Res. Thesis: Andrea Salvanti (reader, 2022), Pia Ennuschaat (reader, 2021); Jeremy Rubinoff (advisor, 2021); Orestis Vravosinos (advisor, 2019); Malachy Gavan (reader, 2019)

M.S. Thesis: Orestis Vravosinos, Malachy Gavan, Kelly Guo, Vladimir Morozov (advisor, 2018)

## (at UW-Madison)

*Ph.D. Thesis*: Mariann Ollar (advisor; 2014); Man Wah Cheung (member of committee; 2015); Jianrong Tian (member of committee; 2016); Jorge Vasquez (member of committee, n.r.; 2016); George Loginov (member of committee; 2018); Shane Auerbach (advisor; 2018); Alexander Clarke (advisor, 2018); Pedro Guinsburg (co-advisor, 2020).

#### External Committee Member (institution; year)

Ph.D. Thesis: Bernardo García-Pola (UPV/EHU, 2018)

## Academic and Departmental Service:

(at UPF)

Ph.D. Program Committee, 2018-

Co-organizer, Microeconomics Seminar Series, 2018-

## (at UW-Madison)

Graduate Committee, 2016-2017

Admission and Aid Committee, 2011-2017

UW Academic Senate (Senator: 2010-2016; alternate: 2016-2017)

Organizer, Micro Theory Seminar Series, 2013-2014

Languages: Italian (native), English (fluent), Spanish (good)