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University of Siena
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Languages

Italian (Mother tongue)
English (fluent)
French (basic)

CURRICULUM VITAE**Education**

1989 PhD Economics, University of Siena.
1982 MSc Statistics, London School of Economics.
1980 Undergraduate Statistics and Economics, University of Siena. (cum laude)

Academic Positions

2002 Full Professor of Economics, University of Siena
2000 Associate Professor of Economics, University of Siena
1999 Associate Professor of Economics, University of Chieti-Pescara
1991 Assistant Professor of Economics, University of Siena

Academic Service

2006-2013 Italian Delegate for 7th EU Framework Program (Cooperation: Socio-Economic Sciences and Humanities)

2007-9 Head of the Department of Economic Policy, Finance and Development, University of Siena

2006 Acted as Rector of University of Siena (February-April)

2004-06 Deputy Rector, University of Siena

2003-04 Head of Department of Political Economy University of Siena

2002 Rector Delegate for Real Estate and Procurement, University of Siena

2001 Member Scientific Committee Master in Economics and Banking MEBS, University of Siena 2001 http://www.unisi.it/mebs/organi_mebs.html

Member Scientific Committee Master in Digital Economics,, University of Siena

2000-01 Program Director PhD Cognitive Sciences, University of Siena

2000-01 Member of Board of Administrators, University of Siena

Affiliations, Honors, Scholarships and Fellowships

2025 Senior Fellow of Exponential Science, London,UK

2009-14-16-17-19-21-22 Visiting Professor IMT Lucca-Italy

2020 Member University of Zurich Blockchain Center, CH.

2018 Research Associate Center for Blockchain Technologies, University College London UK

2016 Visiting Professor, Computer Science Department, University of Liverpool, UK

2014-17 Lecturer Master Public Policy, University of Cambridge-UK

2014 School of Oriental and African Studies (SOAS) London, UK (e-learning consultant)

2013 Visiting Professor University of Freiburg (Germany)

2012 Fernand Braudel Fellowship (European University Institute, Florence)

2011-6 Research Associate and Honorary Professor Maastricht School of Management (Maastricht, NL)

2009 Institute for Advanced Studies (Princeton, US)

2009 CNR Associate "Institute of Science and Technology of Cognition"

2007 Netherlands Institute for Advanced Studies (NIAS)

1999 Member of the Center for Economic Theory (SET), University of Milan

1999 Nato-CNR Fellowship (Cambridge, UK)

1995 Life Member "Clare Hall College" (Cambridge, UK)

1995 British Chevening, British Council (Cambridge, UK)

1990 Post Doc, University of Siena

1984 Assicurazioni Generali, Trieste

1982 Ente Einaudi, Rome

1982 Fullbright Student (Statistics, UNC Chapel Hill, US)

1981 "Monte dei Paschi", Siena

Academic Visits

2009 Institute for Advanced Studies (Princeton-US)
 2008 University of Montreal (CA-Visiting Professor)
 2007 Netherland Institute for Advanced Studies (Wassenaar-NL)
 1992-2018 University of Cambridge (UK) (at least one month each year)
 1988 Washington University St Louis (US)

Other Academic, Professional Appointments and Collaborations

2024 Lecturer Scuola Nazionale Amministrazione

2024 Procurement Advisor Dutch Ministry of Defence

2020-23 Consultant for the blockchain platforms: Algorand, Near, Neo, Polkadot, Tezos, VeChain

2019 Procurement Advisor Italian Ministry of Foreign Affairs and Cooperation

2018-24 Lecturer in The Economics of the Pharmaceutical Industry, Master in Drug Design and Synthesis, University of Siena

2017 Procurement Advisor Dutch Ministry of Defence, Den Haag (NL)

2016 Advisor Roche Pharmaceutical

2016 Lecturer to the Dutch Ministry of Defence, Den Haag (NL)

2016-2019 Corvers Chair in Innovation Procurement- Maastricht School of Management

2015 Consultant AbbVie (EU Joint Procurement)

2015 Lecturer on the Economics of Procurement SORESA, Naples Italy

2013 Economic Advisor for Restoffenunie BV (NL)

2013 Expert rapporteur on Public Procurement for the European Parliament

2013-26 Lecturer International Master in Procurement Management (EBRD University of Rome Tor Vergata and University of Belgrade, 2017-13)

2012 Lecturer in Procurement for a EU Commission-ITCILo project (Belgrade-Ankara)

2010 Lecturer in Procurement BanglaDesh Delegation of Public Procurement Officers (Rome)

2010-12 Procurement Advisor to RVR (Dutch Ministry of Justice) http://www.rvr.org/nl/about_rvr

2009-13 Lecturer and Collaborator on Public Procurement and PPP "Advanced School for Public Administration", Prime Minister Cabinet <http://www.sspa.it/>

2009-20 Consultant "Corvers Procurement Services" (S'Hertogenbosch, NL)

2008-9 Lecturer Master "Euromediterranean" (Cerisdi-Palermo)

2008-26 Lecturer Master in Procurement Management (University of Tor Vergata-Rome) <http://www.economia.uniroma2.it/procurement/index.asp?area=16>

(University of Roma, Tor Vergata)

2007-12 Lecturer Master Public Procurement for Sustainable Development (ITCILo, UN, Torino) <http://lamp.itcilo.org/masters/proc/>

2006-16 Lectures PhD In Economics, Institute for Advanced Studies (IMT, Lucca-Italy) <http://www.imtlucca.it/>

2005 Lecturer Master Economics and Finance, Catholic University, (Milan)
 2007-8 Consultant "Toscana Life Sciences" Foundation www.toscanalifesciences.org Siena
 2004-8 Consultant Italian Procurement Agency CONSIP www.consip.it, Rome
 2002-4 Economic Consultant , Japanese Embassy, Rome.

Further Academic and Professional Appointments

2006 Italian Agency for Environment (APAT)
 1997 Italian Insurance Companies Association (ANIA)
 1995 Eurobic South Tuscany
 1984 Foundation U. Bordoni, Italian Ministry of Telecommunications
 1983 Texas Instruments

Teaching

Since 1992 taught at graduate and undergraduate level, :
 Microeconomics; Macroeconomics; Economic Policy; Monetary Economics; Game and
 Decision Theory, Health and Pharmaceutical Economics, **Procurement**, Mathematics,
 Statistics, **Auction theory**

Conferences and Seminars

Presented papers at various national and international conferences, as well as Departments.
 Moreover, contributed to the organization of a number of national and international
 conferences.

Selected Written Works

- 1) Un Ruolo da Difendere; *Poste & Telecomunicazioni* (1985), n°5.
- 2) Generalizations of Some Continuous Time Epidemic Models; *Quaderni dell'Istituto di Economia, Facoltà di Scienze Economiche e Bancarie Università di Siena* (1987) n° 65.
- 3) A Note on Risk Sharing in the Principal-Agent Relationship; *Economic Notes*, (1987) n°3.
- 4) A Short Remark on Learning Rational Expectations; *Economic Notes*, (1988) n°3.
- 5) Some Results on Ranked Contracts; *Economic Notes*, (1989) n°2.
- 6) On the Robustness of the Rational Expectations Hypothesis; *Quaderni del Dipartimento di Economia Politica, Facoltà di Scienze Economiche e Bancarie Università di Siena* (1989) n° 90.

7) Asymptotic Consensus with Partitions; *Quaderni del Dipartimento di Economia Politica, Facoltà di Scienze Economiche e Bancarie Università di Siena* (1991) n° 135 (under revision)

8) *Macroeconomics: A Survey of Research Strategies*; with A Vercelli, (eds.) Oxford University Press (1992).

9) Generalized Information Structures: Some Theoretical and Methodological Issues; *Quaderni del Dipartimento di Economia Politica, Facoltà di Scienze Economiche e Bancarie, Università di Siena*, (1992), n°144.(under revision)

10) Learning Partitions; *Economics Letters*, (1993).

11) On Sufficient Conditions for Rational Information Processing ; *Quaderni del Dipartimento di Economia Politica, Facoltà di Scienze Economiche e Bancarie, Università di Siena*,(1994), n°171.

12) The Expected Cost of Capital: Private vs. Public Debt Placements (with Alberto Dalmazzo) ; *Quaderni del Dipartimento di Economia Politica, Facoltà di Scienze Economiche e Bancarie, Università di Siena*,(1994), n°178. (under revision)

13) Randomization and Cooperation with Knightian Uncertainty; *Quaderni del Dipartimento di Economia Politica, Facoltà di Scienze Economiche e Bancarie, Università di Siena*,(1995), n°191.

14) The Economic Theory of Learning: An Introduction. *Monograph Series, Dipartimento di Economia Politica, Facoltà di Scienze Economiche e Bancarie, Università di Siena*, (1996), n°8.

15) Indipendenza tra Eventi con Probabilità Non-Additive in "Incertezza, Razionalità e Decisioni Economiche" (A. Vercelli Ed), (1998), Il Mulino

16) Independence Between Events with Non-Additive Probabilities; in "Uncertain Decisions" di L. Luini (Editor), (1999) Kluwer.

(17) Insurance Reversal in an Agency Model with Uncertainty, *Journal of Institutional Theoretical Economics*, (1999), 155, 516-526

(18) Alcune Applicazioni delle Probabilità Non-Additive, on Collana Atto di Congressi (CNR Project on "Decisioni Statistiche: Teoria ed Applicazioni"), (1999) Pitagora Editrice, Bologna.

(19) Correlation, Learning and the Robustness of Cooperation: *Review of Economic Dynamics* (2000) , 3, 311-329.

20) Coordination in an EMAIL Game without "Almost Common Knowledge: *Journal of Logic, Language and Information* 12, 1-11 (2003).

21) *Correlated Communication*; in "Cognitive Processes and Economic Behavior" (Dimitri-Basili-Gilboa eds), Routledge-London (2003)

22) Efficiency and Equilibrium in the EMAIL Game; The General Case : *Theoretical Computer Science*, 314, 335-349, (2003).

23) Generating Realistic Data Sets for Combinatorial Auctions (with A. Bonacorsi, B. Codenotti, M. Leoncini, P. Santi, G. Resta) : *Proc. IEE Conference on Electronic Commerce (CEC)*, Newport Beach, CA, pp 331-338, June 2003.

24) Cooperation with Strategy-Dependent Uncertainty Attitude *Quaderni del Dipartimento di Economia Politica, Facoltà di Scienze Economiche, Università di Siena*, (2005) (submitted).

25) Hyperbolic Discounting can Represent Consistent Preferences, *Quaderni del Dipartimento di Economia Politica, Facoltà di Scienze Economiche, Università di Siena*, (2005) (submitted)

26) *Handbook of Procurement* (Dimitri, Piga, Spagnolo eds), (2006), Cambridge University Press <http://www.cambridge.org/catalogue/catalogue.asp?isbn=9780521870733>

27) *Fostering Participation*, in "Handbook of Procurement" (Dimitri-Piga-Spagnolo eds), Cambridge University Press (2006)

28) *When Should Procurement be Centralized ?* in "Handbook of Procurement" (Dimitri-Piga-Spagnolo eds), Cambridge University Press (2006)

29) *Information and Competitive Tendering* in "Handbook of Procurement" (Dimitri-Piga-Spagnolo eds), Cambridge University Press (2006)

30) *Multi-Contract Tendering Procedures and Package Bidding in Procurement* in "Handbook of Procurement" (Dimitri-Piga-Spagnolo eds), Cambridge University Press (2006)

31) *Putting Auction Theory to Work* (by P. Milgrom, Cambridge University Press, 2003)
Review article for "Rivista di Politica Economica" (2007)

32) *Formule d'Aggiudicazione nelle Gare per gli Acquisti Pubblici* (Scoring Rules in Public Procurement) , *Quaderni Consip* (2007) <http://www.consip.it/online/Home/RicercaeSviluppo/UfficioStudi/Pubblicazioni.html>

33) On the Stage Division Mechanism in Pharmaceuticals Development Processes, *Drug Discovery Today*, 13, 902-906, (2008)

34) Decisioni Intertemporali e Risparmio, *Giornale Italiano di Psicologia*, XXXV, 779-783 (2008)

35) *Standard ed Innovazione negli Acquisti Pubblici* (Standards and Innovation in Public Procurement), Quaderni Consip (2008) <http://www.consip.it/online/Home/RicercaeSviluppo/UfficioStudi/Pubblicazioni.html>

36) Basi D'asta nelle Gare per gli Acquisti Pubblici, *Rivista di Politica Economica* Maggio-Giugno (2008) <http://www.rivistapoliticaeconomica.it/2008/mag-giu/albano.php>

37) Dynamic Consistency in Extensive Form Decision Problems: *Theory and Decision*, 4, 345-354, (2009)

38) Cooperation with Time-Inconsistency (under revision)

39) The Economics of Priority Review Vouchers, *Drug Discovery Today*, 15, 887-891, (2010)

40) Global burden and Investment for Neglected Diseases?, *The Lancet Infectious Diseases*, 10, 658-659. (2010)

41) What Constitutes an Optimal Portfolio of Compounds? *Clinical Pharmacology and Therapeutics*, 80, 300-303. (2011)

42) An Assessment of the Pharmaceutical Industry R&D Productivity, *Trends in Pharmacological Sciences*, 12, 683-685. (2011)

43) "Mirror Revelation" in Second-Price Tullock Auctions (under revision) (2012)

44) R&D Investments for Neglected Diseases could be Sensitive to the Economic Goals of Pharmaceutical Companies, *Drug Discovery Today*, 17, 818-823. (2012)

45) *Gains and Losses in Intertemporal Preferences: A Behavioural Study* (with Faralla, Benuzzi and Nichelli), in "Neuroscience and the Economics of Decision Making" (Innocenti A-Sirigu A. eds) Routledge, (2012)

46) *Some Law & Economics Considerations on the EU Pre-Commercial Procurement of Innovation*, in "The Applied Law and Economics of Public Procurement" (Piga, Treumer eds) (2012), Routledge.

47) On the “Exclusion Principle” in All-Pay Auctions with Incomplete Information (submitted) (*Maastricht School of Management Working Paper Series 2012/50*) (2012)

48) *Time Discounting and Time Consistency*, (with J. van Eijck) in “Games, Actions and Social Software” (R. Verbrugge and J. van Eijck Eds), *Texts in Logic and Games*, Springer Verlag (2012)

49) *On the Reward-Loss Duality in Time Consistent Decision Making*. in “The goals of cognition: Essays in honor of Cristiano Castelfranchi” F. Paglieri, L. Tummolini, R. Falcone, M. Miceli (Eds.) London: College Publications (2012)

50) R&D Incentives for Neglected Diseases, *PLoS ONE*, 7(12); e50835. (2012)

51) On the Notion of “Information Set” in Extensive Form Games with Imperfect Information (2012) (submitted)

52) A New Approach to Assess Drug Development Performance, (with A Rosiello and F. Fiorini), 18, 420-427, *Drug Discovery Today*, (2013)

53) Best Value for Money in Procurement, *The Journal of Public Procurement*, 13, 149-175 (2013)

54) Aste. Formati d’Asta, in *Economia e Finanza*, Istituto Enciclopedia Italiana Treccani, pp 74-75 (2013)

55) Game theory considerations on third countries’ reciprocal access rules to EU public procurement (2013), *Expert report for the European Parliament*. (Under revision for submission)

56) Pricing Pharmaceutical Compounds under Development, *Trends in Pharmacological Sciences*, 35, 217-218, (2014)

57) Neural correlates in intertemporal choice of gains and losses (with V. Faralla, F. Benuzzi, P. Nichelli), *Journal of Neuroscience, Psychology, and Economics*, 8, 27-47 (2015)

58) The Economics of Epidemic Diseases, *Plos One*, <http://dx.doi.org/10.1371/journal.pone.0137964> (2015)

59) Eligibility and efficiency in public procurement systems design, in *Future Proofing Procurement*, United Nations Office for Project Services (UNOPS) (2016)

60) Le Aste su Internet, *Rivista di Politica Economica*, I-III, 1-20, (2016)

61) Bitcoin Mining as a Contest, *Ledger*, 2, 31-37 (2017)

62) Joint Public Procurement Colloquium, in *Law and Economics of Public Procurement Reforms* (Piga G.- Tatrai T. eds) Routledge (2017)

64), Joint Procurement and the EU Perspective, with Mennini F. Gitto L., Lichere F., Piga G., in *Law and Economics of Public Procurement Reforms* (Piga G.- Tatrai T. eds) Routledge (2017)

65) The Blockchain Technology; Some Theory and Applications, *Maastricht School of Management Working Paper*, 2017/3 (2017)

66) A Characterisation of Observability and Verifiability in Contracts: *International Game Theory Review*, 20, 1 (2018)

67) Combinatorial Advertising Internet Auctions, *Electronic Commerce Research and Applications*, 32, 49-56 (2018)

69) The Race for an Artificial General Intelligence: Implications for Public Policy, with W. Naudè, *AI & Society*, April (2019)

70) Transaction Fees, Block Size Limit and Auctions in Bitcoin, *Ledger*, 4, 68-81, (2019)

71) Skills, Efficiency and Timing in a Simple Attack and Defense Model, *Decision Analysis*, 17, 227-234, (2020)

72) Budget Allocation Design in the EU Pre-Commercial Procurement for Innovation, *Journal of Public Procurement*, 20, 88-96, (2020)

73) Pricing Cloud IaaS Computer Services, *Journal of Cloud Computing*, 9, 1-11, (2020)

74) Intellectual Property Rights in the EU Pre-Commercial Procurement for Innovation, *Journal of Strategic Contracting and Negotiation*, 4, 186-199, (2020)

75) Public Procurement and Innovation for Human-Centered Artificial Intelligence, (with Wim Naudè) *IZA Discussion Paper No. 14021*, (2021)

76) The “Italian Football Federation Auction” for Co-Ownership Resolution, *Review of Industrial Organization*, 58, 275-285 (2021)

77) Monetary Dynamics with “Proof of Stake”, *Frontiers in Blockchain* doi: 10.3389/fbloc.2021.443966 (2021)

78) Consensus: Proof of Work, Proof of Stake and Structural Alternatives, in *Enabling the Internet of Value*, (Vadgama N., Xu J, Tasca P. eds) Springer Verlag, (2022)

79) Last Minute Only Bidding is Implausible in E-Bay Sealed Bid Type-of-Auctions, *Electronic Commerce Research*, (2022) doi.org/10.1007/s10660-022-09550-y

80) The Economics of Consensus in Algorand, *Fintech*, 2, 164-179 (2022)

81) Quadratic Voting in Blockchain, *Information*, 13, 305 (2022)

82) Proof of Stake in Algorand, *ACM Distributed Ledger Technologies: Research and Practice* (2022) <https://doi.org/10.1145/3550197>

83) *War of Attrition* and the Cost of Smart Contracts on Ethereum (submitted)

84) Liquid Proof-of-Stake in Tezos: An Economic Analysis, *Information*, 13, 556, (2022)

85) The Economic Value of Dual Token Blockchains, *Mathematics*, 11, 1-19, 3757 (2023)

86) Voting in DAOs *ACM Distributed Ledger Technologies: Research and Practice* (2023) (2023) <https://dl.acm.org/doi/10.1145/3624574>

87) Arbitrageurs in the Bitcoin Ecosystem: Evidence from User-Level Trading Patterns in the Mt Gox Exchange Platform (with Saggese P., Belmonte A., Facchini R., Bohme A.) *Journal of Economic Behavior and Organization*, 213, 251-270 (2023)

88) *Artificial Intelligence; Economic Perspectives and Models* (with Naudè W. and Gries T. eds) Cambridge University Press, (2024)

89) Cross-Border Procurement in the European Union and Beyond: A Game Theoretic Framework (submitted) (2024)

90) Effectiveness of iNTS Vaccination in Sub-Saharan Africa, with Cassese D., Spadafina T., Breghi G., *Scientific Reports*, (2024)

91) Monetary Holdings, Speculation and Transaction Costs Stability in Two-Token Blockchains* (under revision for resubmission to *Human and Social Sciences Communications*) (2024)

92) Arbitrage in Automated Market Makers, *Frontiers in Blockchain*, 7, (2024)

93) Congestion, Scaling and The Market for Shards in Blockchains, *ACM Distributed Ledger Technologies*, (2025)

94) Combinatorial Borrowing in Blockchains Liquidity Markets (submitted)

95) Public Procurement of Innovation: a Focus on Italy, *Economia Italiana*, 3, 127-144, (2025)

- 96) The Economics of MEV, *Mathematics*, 13, 1-8, 3845 (2025)
- 97) A Representation of the Blockchain (submitted)
- 98) Modelling Nominators and Validators' decision Making in Polkadot (submitted)
- 99) Comparing Endogenous and Exogenous Discounting (submitted)
- 100) Pricing with Multiple Blockchain-Based Currencies (submitted)

Some Work in Progress

- 101) Why do Lotteries Exist?

Referee

ACM Distributed Ledger, Clinical Pharmacology and Therapeutics, Economic Notes, Frontiers in Blockchain, Health Economics, IEEE Transactions on Services Computing, International Journal of Game Theory, Journal of Institutional and Theoretical Economics, Journal of Economic Behaviour and Organization, Journal of Economic Psychology, Journal of Mind and Society, Mathematical Reviews, Note Economiche, Ledger, Research in Economics, Structural Change and Economic Dynamics, Autonomous Agents and Multi-Agents Systems, Rivista di Politica Economica, Economia Pubblica, Theory and Decision, Topoi, The Lancet Infectious Diseases, PLoS ONE, Expert Review in Pharmacoeconomics & Outcomes Research, Small Business Economics, European Journal of Operational Research, Public Management Review, Management Science, Cambridge University Press, The Dutch Research Council (NWO).

Associate Editor of the Journals

Frontiers in Blockchain
IET Blockchain

Nicola Dimitri

