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Current Position

Nov. 2019- Present **Institute of Economics, Scuola Superiore Sant'Anna, Pisa, Italy**
Associate Professor in Applied Economics (s.s.d. SECS-P/06 – Economia applicata)

Research Interests

Economics of IPR, measuring innovation (in particular using patent and citation data), interplay between IPR and technological standards, industrial dynamics of high-tech sectors.

Previous Appointments

Nov. 2016 - Nov. 2019 **Institute of Economics, Scuola Superiore Sant'Anna, Pisa, Italy**
Assistant Professor (Tenure Track) - Ricercatore a tempo determinato ai sensi dell'articolo 24, comma 3, lett. B della legge 240/2010

Jan. 2015 - Nov. 2016 **IBIMET-CNR, Florence, Italy**
Research Fellow in the research project "Products complexity and economic performance: from countries to firms" under the supervision of Prof. Dosi at the Scuola Superiore Sant'Anna.

Dic. 2012 - Dic. 2014 **Institute of Economics, Scuola Superiore Sant'Anna, Pisa, Italy**
Post doctoral fellow (Assegnista di ricerca) in the project "The challenge of globalization: Technology driven foreign direct investment (TFDI) and its implications for the negotiation of International (bi and multilateral) Investment Agreements" funded by the Riksbank Foundation

Nov. 2010 - Nov. 2012 **Institute of Economics, Scuola Superiore Sant'Anna, Pisa, Italy**
Post doctoral fellow

July 2012 - Nov. 2012 **Télécom Ecole de Management, Paris, France**
Visiting researcher within the ECOPATENT project funded by ADEME (Agence de l'environnement et de la Maîtrise de l'énergie)

Feb. 2009 - Nov. 2010 **GSBC - EIC The Economics of Innovative Change, Friedrich-Schiller-University, Jena, Germany**
Post doctoral fellow

Education

Feb. 2005 - June 2010 **ECIS (Eindhoven Centre for Innovation Studies) Eindhoven University of Technology, The Netherlands**

Ph.D. Student in Economics of technological change. Dissertation: "The dynamics of technological discontinuities: a patent citation network analysis of telecommunication switches" (supervisors: B. Verspagen, A. Nuvolari and B. Sadowski)

Sept. 2003 - Sept. 2004 **SPRU (Science and Technology Policy Research) - University of Sussex, Brighton, United Kingdom**

Master in Industry and Innovation Analysis. Dissertation: "University-Industry Technological Transfers: The case of Sussex University" (supervisors: N. von Tunzelmann and M. Meyer)

Sept. 1997 - July 2003 **Università Bocconi, Milan, Italy**

First Degree (Master Equivalent) in Economics and Social Science. Dissertation: "Innovation, Knowledge and Corporate Finance: An Empirical Analysis" (supervisors: F. Malerba and L. Bottazzi)

Feb. 2001 - July 2001 **Pontificia Universidad Catholica de Chile, Santiago**

Exchange Program. Courses: International Economics, Econometrics, Development Economics, and Corporate Finance (MBA course)

Publications

Bekkers, R., Catalini, C., Martinelli, A., Righi, C., & Simcoe, T. (2023). Disclosure rules and declared essential patents. *Research Policy*, 52(1), 104618. doi: <https://doi.org/10.1016/j.respol.2022.104618>

Capponi, G., Martinelli, A., & Nuvolari, A. (2022). Breakthrough innovations and where to find them. *Research Policy*, 51(1), 104376. doi: <https://doi.org/10.1016/j.respol.2021.104376>

Biggi, G., Giuliani, E., Martinelli, A., & Benfenati, E. (2022). Patent toxicity. *Research Policy*, 51(1), 104329. doi: <https://doi.org/10.1016/j.respol.2021.104329>

Fontana, R., Martinelli, A., & Nuvolari, A. (2021). Regimes reloaded! a reappraisal of schumpeterian patterns of innovation, 1977–2011. *Journal of Evolutionary Economics*, 31(5), 1495–1519. doi: [10.1007/s00191-021-00735-6](https://doi.org/10.1007/s00191-021-00735-6)

Bekkers, R., & Martinelli, A. (2021, 05). 506C32A Network Analysis Approach to Intellectual Property Research. In *Handbook of Intellectual Property Research: Lenses, Methods, and Perspectives*. Oxford University Press. doi: [10.1093/oso/9780198826743.003.0033](https://doi.org/10.1093/oso/9780198826743.003.0033)

Amendolagine, V., Giuliani, E., Martinelli, A., & Rabellotti, R. (2020). Chinese multinational enterprises bridging technologies across home and host regions. In M. McKelvey & J. Jin (Eds.), *Innovative capabilities and the globalization of chinese firms* (p. 96-111). Edward Elgar Publishing.

Martinelli, A., Mina, A., & Moggi, M. (2021, 01). The enabling technologies of industry 4.0: examining the seeds of the fourth industrial revolution. *Industrial and Corporate Change*, 30(1), 161-188. doi: [10.1093/icc/dtaa060](https://doi.org/10.1093/icc/dtaa060)

- Bekkers, R., Martinelli, A., & Tamagni, F. (2020). The impact of including standards-related documentation in patent prior art: Evidence from an epo policy change. *Research Policy*, 49(7), 104007. doi: <https://doi.org/10.1016/j.respol.2020.104007>
- Cirillo, V., Martinelli, A., Nuvolari, A., & Tranchero, M. (2019). Only one way to skin a cat? heterogeneity and equifinality in european national innovation systems. *Research Policy*, 48(4), 905-922. (New Frontiers in Science, Technology and Innovation Research from SPRU's 50th Anniversary Conference) doi: <https://doi.org/10.1016/j.respol.2018.10.012>
- Capponi, G., Criscuolo, P., Martinelli, A., & Nuvolari, A. (2019). Profiting from innovation: Evidence from a survey of queen's awards winners. *Structural Change and Economic Dynamics*, 49, 155-169. doi: <https://doi.org/10.1016/j.strueco.2019.02.002>
- Amendolagine, V., Giuliani, E., Martinelli, A., & Rabellotti, R. (2018, 10). Chinese and Indian MNEs' shopping spree in advanced countries. How good is it for their innovative output? *Journal of Economic Geography*, 18(5), 1149-1176. doi: <https://doi.org/10.1093/jeg/lby049>
- Cecere, G., & Martinelli, A. (2017). Drivers of knowledge accumulation in electronic waste management: An analysis of publication data. *Research Policy*, 46(5), 925-938. doi: <https://doi.org/10.1016/j.respol.2017.03.005>
- Giuliani, E., Martinelli, A., & Rabellotti, R. (2016). Is co-invention expediting technological catch up? a study of collaboration between emerging country firms and eu inventors. *World Development*, 77, 192-205. doi: <https://doi.org/10.1016/j.worlddev.2015.08.019>
- Martinelli, A., & Nomaler, Ö. (2014). Measuring knowledge persistence: a genetic approach to patent citation networks. *Journal of Evolutionary Economics*, 24(3), 623-652. doi: 10.1007/s00191-014-0349-5
- Bekkers, R., & Martinelli, A. (2012). Knowledge positions in high-tech markets: Trajectories, standards, strategies and true innovators. *Technological Forecasting and Social Change*, 79(7), 1192-1216. doi: <https://doi.org/10.1016/j.techfore.2012.01.009>
- Martinelli, A. (2012). An emerging paradigm or just another trajectory? understanding the nature of technological changes using engineering heuristics in the telecommunications switching industry. *Research Policy*, 41(2), 414-429. doi: <https://doi.org/10.1016/j.respol.2011.10.012>
- Martinelli, A. (2011). *The dynamics of technological discontinuities: A patent citation analysis of the telecommunication switching industry*. Eindhoven, The Netherlands: Eindhoven University Press. doi: 10.6100/IR675978
- Martinelli, A., Meyer, M., & von Tunzelmann, N. (2008). Becoming an entrepreneurial university? a case study of knowledge exchange relationships and faculty attitudes in a medium-sized, research-oriented university. *The Journal of Technology Transfer*, 33(3), 259-283. doi: <https://doi.org/10.1007/s10961-007-9031-5>

Working Papers

- Martinelli, A., Mazzei, J., & Moschella, D. (2022). *Patent disputes as emerging barriers to technology entry? empirical evidence from patent opposition* (Working Paper No. 2022/12). Laboratory of Economics and Management (LEM), Sant'Anna School of Advanced Studies, Pisa, Italy. Retrieved from <https://www.lem.sssup.it/WPLem/2022-12.html>
- Martinelli, A., Nuvolari, A., Palagi, E., & Russo, E. (2022). *Digitalization, copyright and innovation in the creative industries: an agent-based model* (Working Paper No. 2022/03). Laboratory of Economics and Management (LEM), Sant'Anna School of Advanced Studies, Pisa, Italy. Retrieved from <https://www.lem.sssup.it/WPLem/2022-03.html>

- Iori, M., Martinelli, A., & Mina, A. (2021). *The direction of technical change in ai and the trajectory effects of government funding* (Working Paper No. 2021/41). Laboratory of Economics and Management (LEM), Sant'Anna School of Advanced Studies, Pisa, Italy. Retrieved from <https://www.lem.sssup.it/WPLem/2021-41.html>
- Martinelli, A., & Romito, E. (2019). *When authors become inventors: an empirical analysis on patent-paper pairs in medical research* (Working Paper No. 2019/32). Laboratory of Economics and Management (LEM), Sant'Anna School of Advanced Studies, Pisa, Italy. Retrieved from <https://www.lem.sssup.it/WPLem/2019-32.html>
- Bekkers, R., Catalini, C., Martinelli, A., Righi, C., & Simcoe, T. (2017). *Disclosure rules and declared essential patents* (Working Paper No. 23627). National Bureau of Economic Research. Retrieved from <http://www.nber.org/papers/w23627>
- Bekkers, R., Baron, J., Martinelli, A., Ménière, Y., Nomaler, O., & Pohlmann, T. (2014). *Selected quantitative studies of patents in standards* (Working Paper No. 626). PIE/CIS, Hitotsubashi University, Tokyo, Japan. Retrieved from <http://hermes-ir.lib.hit-u.ac.jp/rs/handle/10086/26727>
- Cantner, U., Guerzoni, M., & Martinelli, A. (2012). *Innovation and market dynamics: A two-mode network approach to user-producer relation* (Tech. Rep. No. 2012/09). Laboratory of Economics and Management (LEM), Sant'Anna School of Advanced Studies, Pisa, Italy. Retrieved from <https://www.lem.sssup.it/WPLem/2012-09.html>

Ongoing Research

“From open warfare to strawman’s anonymity: Motives and strategies behind patent opposition at EPO”, with R. Bekkers (Eindhoven University of Technology) and J. Mazzei (Scuola Sant’Anna)

“Academic Discontent, Breach of Academic Values, and Behavior Towards Publishers: Survey Evidence on the use of Sci-Hub”, with Giulia Rossello (Scuola Sant’Anna)

“Death squad or quality improvement? The impact of introducing post-grant review on U.S. patent quality”, with J. Mazzei (Scuola Sant’Anna)

“COVID-19 emergency and on-line piracy: an empirical analysis”, with J. Mazzei (Scuola Sant’Anna), A. Nuvolari (Scuola Sant’Anna) and J. Poort (IViR, University of Amsterdam)

“The double effect of Medicine Patent Pool on Generic Competition in the market for HIV drugs”, with E. Romito and A. Mina (Scuola Sant’Anna)

“FDI and market entry: an empirical analysis using trademarks”, with E. Giuliani (University of Pisa) and C. Castaldi (Utrecht University)

Book chapter on “Technological Trajectories” in *Handbook of Research Methods and Applications in Industrial Dynamics and Evolutionary Economics* edited by U. Cantner, M Guerzoni, and S. Vannuccini

Teaching experience

Academic year 2021-2022:

- “The microeconomics of market failure” Undergraduate course. (20 hours)
- “Innovation and IPRs” Phd course (12 hours)

- **“The Law and Economics of patents”** together with Prof. Caterina Sganga at Scuola Superiore Sant’Anna. Undergraduate course. (20 hours)
- **“The Law and Economics of Technological Innovation: Robotics and AI”** Phd Course within the activities of the Jean Monnet Centre of Excellence on the Regulation of Robotics and AI (EURA) (4 hours)
- **“Industrial Economics”** together with Prof. Tamagni. Master course (14 hours module on innovation)

Previous years:

- Invited lecture on **“Patent data and internationalization of innovative activities”** in the course of Economic Development hold by Prof. Roberta Rabellotti at Pavia University.
- **“Programming in Stata”** course held for the Dipartimento di Scienze Politiche in the academic year 2016-2017, Università di Pisa (10 hours)
- Invited lecture on **“Patent data and internationalization of innovative activities?”** for the academic year 2016-2017 in the course of Economic Development hold by Prof. Roberta Rabellotti at Pavia University.
- **“Introduzione a STATA”** for the academic year 2015-2016 at Scuola Superiore Sant’Anna. Undergraduate course.
- **“Economics of Innovation”** for the academic year 2014-2015 at Scuola Superiore Sant’Anna. Course for the join master program with University of Trento on Innovation Management.
- **“IPR and Technological Standards”** for the academic year 2013-2014, at Scuola Superiore Sant’Anna. Undergraduate course. Academic year 2007-2008:
- Teaching assistant for the course **“Economics of Innovation: use of network analysis for patent and citation data”**, 6 CFU taught by Prof. Alessandro Nuvolari at Eindhoven University of Technology. Undergraduate course.
- Teaching assistant for the course **“Technology and Growth”**, 6 CFU taught by Prof. Bart Verspagen, at Eindhoven University of Technology. Master course. Evaluations are available.

Certificate “Teaching in Higher Education” awarded by Eindhoven University of Technology

PhD students supervision

- Julia Mazzei (first supervisor), ongoing
- Giovanna Capponi (co-supervision together with Prof. Nuvolari), now assistant professor at Utrecht University
- Elena Romito (first supervisor), now at the Bank of Italy

Funds and Projects

- Project “Un’analisi empirica delle relazioni fra Data-Driven Innovation e performance d’impresa a livello regionale” (DDI-EMPIRICS) funded by Regione Toscana
- H2020 Project ReCreating Europe (PI Prof. C. Sganga), member of the Sant’Anna unit
- Subcontractor for project awarded by the Joint Research Council (JRC) of the European Commission has awarded to Dialogic innovatie & interactie vof (Ref.: JRC/SVQ/2018/B.6/0024/OC)
- Member of the Sant’Anna unit of the PRIN2017 (Protocollo 201799ZJSN) project granted in April 2019 and lead by Prof. Marco Vivarelli (Catholic University of Milan).
- Member of the Sant’Anna unit of the H2020 Project GROWINPRO (grant agreement No. 822781) started in January lead by Prof. Andrea Roventini.
- Member of the SantAnna unit of the H2020 Project ISIGROWTH (grant agreement No. 649186) in the period 2015-2017 and lead by Prof. Giovanni Dosi
- Member of the team that has been awarded the European Commission DG Enterprise “Study on industries dependent on standards and patent challenges and possible policy reactions” (January, 2013).
- 15,000 Euros for organizing (together with Alessandro Nuvolari and Önder Nomaler) an international workshop about "The Structure and Dynamics of Knowledge Networks" within the DIME Network of Excellence (all the details are available at: <http://www.dime-eu.org/knowledge-networks>).
- 95,000 Euros from DIME Network of Excellence (WP 2 RAL2) for a Project “User-Producer Networks, Technological Trajectories, and the Dynamics of Industries”. This project is a partnership with KITeS, Bocconi University, in particular. The research performed at the Friedrich Schiller Universität is about the telecommunication switching industry and heavily relies on the data collected during my PhD project.

Selected participation and presentation at conferences and seminar

6th Copenhagen Conference on “Emerging Multinationals? Outward Investment from Emerging Economies”, Copenhagen (October 11-12, 2018); EPIP 2018 Conference, Berlin (September 5-7, 2018); DRUID18, Copenhagen (June 11-13, 2018); GEOINNO2018, Barcelona (January 31-February 2, 2018); EPIP 2017, Bordeaux, (September 4-6, 2018); DRUID17, New York (June 13-15, 2017); 10th European Meeting on Applied Evolutionary Economics (EMAE), Strasbourg (May 31- June 3, 2017); 16th International Schumpeter Society, Montreal (July 6-8, 2014); IP Statistics for Decision Makers, Wien, Austria (November 3-4, 2015) 5th Reading-UNCTAD International Business Conference, University of Reading, United Kingdom, (June 13-14, 2015); 7th EMAEE Conference, Maastricht University, Maastricht (June 1-3, 2015); 15th International Schumpeter Society, Jena (July 27-30, 2014); Conference on Micro Evidence on Innovation in Developing Economies, Santiago del Chile (November 7-8, 2013); 6th Annual Conference for the Academy of Innovation and Entrepreneurship, Oxford (August 29-30, 2013); 35th DRUID Conference, Barcellona (June 17-19, 2013); 6th EMAEE Conference, Sophia Antipolis, Nice (June 10-12, 2013); 4th International Workshop on Evolution of Technology and Standards, Hitotsubashi University, Tokyo (April 12-13, 2012); NBER Patents, Standards and Innovation Conference; Tucson (January 20-21, 2012), NBER Patents, Standards and Innovation Pre-Conference, Boston (7 May 2011); DIME Final Conference, Maastricht (April 6-8, 2011); 7th EMAEE Conference, Scuola Superiore Sant’Anna, Pisa (14-16 February 2011); 13th International Schumpeter Society, Aalborg (21-24 June 2010); DIME Workshop: Measuring, Mapping and Modelling Technical Change, Pisa (6-7 May 2010); DIME Conference: Organizing for Networked Innovation, Politecnico di

Milano, Milan (15-16 April 2010); DRUID Summer Conference, CBS, Copenhagen (17-19 June 2009); 12th International Schumpeter Society, Rio de Janeiro, (2-5 July 2008); 25th DRUID Summer Conference, CBS, Copenhagen (17-21 June 2008); 15th CCC Conference, Carnegie Mellon University, Pittsburgh (11-13 April 2008); DIME Grand Conference, Strasbourg (7-9 April 2008); CESPRI Seminar, Bocconi University (26th March 2008)

Refereeing activity

Management Science, Review of Industrial Organization, Research Policy, Industrial and Corporate Change, Industry and Innovation, Journal of Evolutionary Economics, Technological Forecasting and Social Change, R&D Management, Journal of Technology Transfer, Technology Analysis & Strategic Management, Journal of Industrial and Business Economics/Economia e Politica Industriale, Scientometrics.

Administration and academic services

- Member appointed by the Economics Institute to the general assembly of the “Centro di Competenza ARTES 4.0”
- Member of the admission committee for undergraduate students (year 2017)
- Member of the committee for the “colloqui di verifica” degli allievi del I e II anno dell’Area di Scienze Economiche e Manageriali academic year 2018-2019.
- Member of the electoral commission
- Nov. 2016-Mar. 2019: Elected member of the academic Senate.
- Nov. 2013-Nov. 2014: Elected member of the Ethical Committee of Scuola Superiore Sant’Anna.

Languages and Computer skills

Italian (native speaker), English (fluent), Spanish (fluent), French (basic).

Scientific software: Stata, SPSS, Matlab, Ucinet, Pajek, R, MYSQL. Windows, MAC OS X, Latex.