

Curriculum Vitae
Giorgio Triulzi, PhD

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Personal Information

Birth date and place: November 13, 1984, Milan, Italy
Nationality: Italian
Website: giorgio-triulzi.com
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Research Interests

Primary: Economics and Management of Innovation and Technological Change, Empirical Analysis of Technology Evolution, Catching-up by Latecomers, Productivity and Growth

Secondary: Science, Technology and Innovation Policy

Academic Positions

Assistant Professor (with tenure track)

Universidad de los Andes School of Management, Bogotá, Colombia
January 2018-ongoing

Research Affiliate

Massachusetts Institute of Technology – Sociotechnical Systems Research Center
January 2018-ongoing

Postdoctoral Associate

Massachusetts Institute of Technology – Institute for Data, Systems, and Society
January 2016 – December 2017

Post-doctoral Research Assistant

SUTD-MIT International Design Centre
Engineering Product Development Pillar, Singapore University of Technology and Design
October 2014-November 2015

Graduate research assistant

UNU-MERIT, Maastricht, The Netherlands
September 2009-August 2010

Project principal investigator: Prof. Bart Verspagen

- EXPLORE (DIME project – Dynamics of Institutions and Markets in Europe), *Exploring the knowledge base of the knowledge economy*

Education

PhD in Economics and Policy Studies of Technical Change

UNU-MERIT and Maastricht University, Maastricht, Netherlands

Thesis advisors: Prof. Bart Verspagen (main), Dr. Önder Nomaler

Thesis title: *Looking for the Right Path. Engineering Trajectories, Catching-up and Industrial Dynamics in the Semiconductor Industry.*

September 2009 – December 2015

MSc. in Economics of International Markets and New Technologies (*full grade cum laude*)

Bocconi University, Milan, Italy

September 2006 - March 2009

Master thesis advisors: Prof. Franco Malerba, Prof. Andreas Pyka

Master thesis title: *R&D and Knowledge Dynamics in University-Industry Relationships in Biotech and Pharmaceuticals: an Agent-Based Model*

Bachelor in Economics of International Markets and New Technologies

Bocconi University, Milan, Italy

September 2003 - July 2006

EU Erasmus Master Exchange Programme

Eindhoven Technical University, Eindhoven, Netherlands

August 2007 - January 2008

EU Erasmus Undergraduate Exchange Programme

Université Louis Pasteur (now University of Strasbourg), Strasbourg, France

September 2005 - January 2006

Teaching experience

Universidad de los Andes, School of Management

Several courses since January 2018 as part of my position of Assistant Professor

Undergraduate in Management

- Strategic Management of Technological Innovation
- Entrepreneurship and Innovation
- Management of Public Goods (Gestión de lo Público)

MSc and PhD in Management

- Business, Technology, Innovation, and Diffusion

Master and PhD in Strategic Management of Technological Innovation

- Strategic Management of Technological Innovation

Singapore University of Technology and Design

Course Coordinator and Instructor for course Introduction to Applied Statistics (graduate level)

July – October 2015

School of Business and Economics, Maastricht University

Lecturer (0.6 fte) between September 2013 – August 2014

- Coordinator of the course *Innovation in Economics and Business* (third year bachelor)

- Tutor for the undergraduate courses in *Microeconomics*, *Principle of Economics*, *International Economics* and *Banking* (applying the problem-based learning method)

Teaching assistant

School of Business and Economics, Maastricht University, Maastricht, Netherlands

September 2010 – August 2013

- Tutor for the undergraduate courses *Innovation in Economics and Business*, *International Economics* and *Development Economics*

Teaching certificates

MIT Kaufmann Teaching Certificate Program

Graduated in June 2017

Universidad de los Andes Teaching Pedagogy Program

Graduated in June 2020

Supervision

Co-supervisor

Postdoctoral researcher Guillermo Ruiz Pava, shared position between MIT and Universidad de los Andes, May 2019-ongoing

Supervisor

Of several undergraduate and graduate research assistant at Universidad de los Andes, January 2019-ongoing

Co-supervisor

Visiting Graduate Research Assistant Mariam Barry at MIT-IDSS between May – August 2016

Consultancy and contract research

- Part of team that consulted Ecopetrol (largest Colombian firm) while at Universidad de los Andes in 2020-2021
- Part of team that performed contract research for Draper Laboratories while being a postdoc at MIT IDSS in 2016-2017

Publications

Work in progress

Dynamic Mapping of Industry-Technology Linkages to Predict Economic Performance (with Chris Magee)

Studying the Evolution of the Backbone of Technology Development: Surveying Information Centrality in the Patent System (with Chris Magee)

Papers under review or being prepared for submission

“Technological Improvement Rate Estimates for All Technologies: Use of Patent Data and an Extended Domain Description”, with Anuraag Singh and Chris Magee, *under review*.

“Tracing the emergence of new technology: a comparative analysis of five technological domains”, with Incha Park and Chris Magee, *under review*.

Life Cycle of Technology Domains and Comparative Technological Advantage, *being prepared for submission*.

Published refereed journal articles

2020, “Estimating Technology Performance Improvement Rates by Mining Patent Data”, with Jeff Alstott and Chris Magee, *Technological Forecasting and Social Change*, Vol 158, 120100.

2019, “Quantification of Technological Progress in Greenhouse Gas (GHG) Capture and Mitigation using Patent Data”, with Mahdi Sharifzadeh and Chris Magee, *Energy and Environmental Science*.

2019, “Overlay technology space map for analyzing design knowledge base of a technology domain: the case of hybrid electric vehicle”, with Binyang Song, Bowen Yan, Jeff Alstott and Jianxi Luo, *Research in Engineering Design* (ISSN 0934-9839) N.A. (-), pp. 1-19.

2018, “Cyclic dependence, vertical integration, and innovation: The case of Japanese electronics sector in the 1990s”, with Jianxi Luo, *Technological Forecasting and Social Change*, 132, 46-55.

2018, “Is There a Moore's Law for 3D Printing?”, with Chris Benson and Chris Magee, *3D Printing and Additive Manufacturing*, 5(1), 53-62.

2017, “Inventors Explorations Across Technology Domains”, with Jeff Alstott, Bowen Yan and Jianxi Luo, *Design Science*, 3. doi:10.1017/dsj.2017.21

2017, “Mapping Technology Space by Normalizing Patent Networks”, with Jeff Alstott, Bowen Yan and Jianxi Luo, *Scientometrics*, Volume 110, Issue 1, pp 443–479.

2014, "R&D and Knowledge Dynamics in University-Industry Relationships in Biotech and Pharmaceuticals: an Agent-Based Model", with Ramon Scholz, Andreas Pyka, *International Journal of Biotechnology*, Volume 13, Issue 1-3, pp. 137-179.

2012, "Knowledge flows - Analyzing the core literature of innovation, entrepreneurship and science and technology studies" with Samyukta Bhupatiraju, Bart Verspagen, Önder Nomaler, *Research Policy*, Volume 41, Issue 7, Pages 1121-1282

2011, "Learning-by-Modeling: Insights from an Agent-Based Model of University-Industry Relationships", with Andreas Pyka, *Cybernetics and Systems*, Volume 42, Issue 7 pp. 484-501

Conference Proceedings

2016, “Overlay Patent Networks to Analyze the Design Space Of a Technology Domain: The Case of Hybrid Electrical Vehicles”, with Binyang Song, Jeff Alstott, Bowen Yan and Jianxi Luo, *Proceedings of the DESIGN 2016 14th International Design Conference*.

PhD Dissertation

Looking for the Right Path. Engineering Trajectories, Catching-up and Industrial Dynamics in the Semiconductor Industry.

Awards

Best poster award

2015 Conference on Complex Systems
Tempe, AZ, US

Best symposium paper award

International Symposium on Agent-Based Modeling
University of Vienna, Austria, May 2010

Outstanding PhD paper award

European Meeting on Applied Evolutionary Economics
Max Planck Institute of Evolutionary Economics, Jena, Germany, May 2009

Invited talks

October 7-9, 2019, Workshop “Tracking innovation trajectories in the complex economy”.
Organizer: Universidad de Turin y Institute for New Economic Thinking.

March 11, 2019, XII Conference on Frontier Research in Applied Economics
Organizer: Research Group on Economic Modeling and Quantitative Methods, Universidad Nacional de Colombia, Department of Economics, Bogotá, Colombia

October 12, 2018, Workshop on Innovation, Industrial Dynamics and Industrial Policy
Organizer: Universidad Jorge Tadeo Lozano, Department of Economics, Bogotá, Colombia

December 19, 2017, Workshop on Economics of Innovation, Complexity and Knowledge
Organizer: Collegio Carlo Alberto, Turin, Italy

March 22, 2017, Workshop “Collective Learning and Economic Geography”
Organizer: Cesar Hidalgo, MIT-Media Lab, Cambridge, US

May 31, 2016, Seminar at Scalable Cooperation Group
Organizer: Iyad Rahwan, MIT-Media Lab, Cambridge, US

Conference presentations

DRUID Society Conference (2018); Micro Evidences on Innovation and Development Conference (2016); Global Tech-Mining Conference (2016); International Joseph A. Schumpeter Society Conference (2016 and 2014); Conference on Complex Systems, (2015); New England Complex Systems Institute Summer Course in Complexity (2014); International Asia-Pacific Innovation Conference (2015 and 2013); European Meeting on Applied Evolutionary Economics (2015, 2013 and 2009); SUNBELT Social Networks Conference of the International Network for Social Network Analysis (2013); Globelics Conference (2011), Dynamics of Institutions and Markets in Europe Conference (2011); Advances in Agent-Based Computational Economics (2010), International Symposium on Agent-Based Modeling (2010); Conference of the Annual European Association for Evolutionary Political Economy (2009).

Referee Services

Research Policy, Industrial and Corporate Change, Technology Forecasting and Social Change, Scientometrics, Journal of Evolutionary Economics, Plos One

Professional Associations

American Economic Association (November 2016-to date)

International Joseph A. Schumpeter Society (August 2014-to date)

Methodological and Software Skills

Methodologies: Statistical and Econometric analysis, Complex Network Analysis

Software and languages: Python, Matlab, Stata, SQL, Pajek

Administrative and Organizational Skills

Member of the Accreditation Committee, Universidad de los Andes, School of Management

Co-organizer of Agora Seminar Series at School of Management, Universidad de los Andes

Member of the Exchange Program Committee, Universidad de los Andes, School of Management

Co-organizer of a satellite session on Complexity Economics at the International Joseph A. Schumpeter Society Conference 2016

Co-organizer of a satellite session on Technology at the Conference on Complex Systems 2015

Founder and organizer of the Methodological and Technical Skills Seminar Series at UNU-MERIT 2010-2014

First UNU-MERIT PhD Students Representative (October 2011-October 2012)

Language Skills

Italian (native), English (fluent), Spanish (fluent), French (medium)

References

Prof. Christopher L. Magee (Postdoc advisor)
Professor at MIT-IDSS
Co-director SUTD-MIT IDC
+1 617 252 1077
cmagee@mit.edu

Prof. Jianxi Luo (Postdoc advisor)
Assistant Professor at Singapore University of
Technology and Design (SUTD)
luo@sutd.edu.sg

Prof. Bart Verspagen (PhD thesis advisor)
Director of UNU-MERIT
+31(0)43 3884410
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Prof. Franco Malerba (MSc thesis advisor)
President of CRIOS and former director of
KITES/CESPRI at Bocconi University, Italy
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