

Curriculum Vitae

Giorgio Triulzi, PhD

Updated to July 24th, 2019

Personal Information

Birth date and place: November 13, 1984, Milan, Italy

Nationality: Italian

Current positions: Assistant Professor, Universidad de los Andes School of Management;
Research Affiliate, MIT - Sociotechnical Systems Research Center

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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

Research Interests

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

Secondary: Science, Technology and Innovation Policy

Professional Experience – Research

Postdoctoral Associate

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

Research Assistant (Post-doctoral level)

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

Project 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*

Research intern

University of Bremen - Institute of Institutional and Innovation Economics, Bremen, Germany
April 2008 - August 2009

Project principal investigator: Prof. Andreas Pyka

- ServPPIN (EU 7th Framework Programme project), *The Contribution of Public and Private Services to European Growth and Welfare and the Role of Public-Private Innovation Networks*
- NEMO (EU 7th Framework Programme project), *Network Models, Governance and R&D Collaboration Networks*

Professional Experience: Teaching and Supervision

Universidad de los Andes, School of Management (since January 2018)

Undergraduate in Management

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

MSc and PhD

- Business, Technology, Innovation, and Diffusion

MIT Kaufmann Teaching Certificate Program

Graduated in June 2017

Co-supervisor

Visiting Research Student at MIT-IDSS, May – August 2016

Course Coordinator and Instructor

Introduction to Applied Statistics (graduate level)

Singapore University of Technology and Design

July – October 2015

2016, “Mapping the Technology Space by Normalizing Technology Networks”, with Jeff Alstott, Bowen Yan and Jianxi Luo, *Scientometrics*, in press (doi:10.1007/s11192-016-2107-y).

Lecturer (0.6 fte)

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

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)
- Co-supervisor undergraduate student’s thesis on productivity differentials across Europe

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*

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)

Engineering Trajectories, Ranking of Design Problems and Catching-Up.

Papers under review or being prepared for submission

Estimating Technology Performance Improvement Rates by Mining Patent Data (with Chris Magee and Jeff Alstott), under review

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

Do I fit? Innovative Survival, Technology Dynamics and the Evolution of Knowledge, being prepared for submission.

Published refereed journal articles

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.

Other research outputs

- 2010, "An Economic Approach to the Theory of Innovation Networks in the Service Industries", with Andreas Pyka, Benjamin Schön, Paul Windrum, Lars Fuglsang, Koen Frenken, EU 7th. Framework Programme - ServPPIN project.

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

- 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

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

Administrative and Organizational Skills

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

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

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

Initiator and organizer of a satellite session on Technology at the Conference on Complex Systems 2015

Initiator and organizer of the Methodological and Technical Skills Seminar Series at UNU-MERIT

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

Member of the election committee for the UNU-MERIT PhD Students Representatives (Oct. 2012)

Reviewer for the selection committee of the UNU-MERIT PhD Programme for the 2012 Cohort

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
b.verspagen@maastrichtuniversity.nl

Prof. Robin Cowan
Dean of the UNU-MERIT PhD programme
+31(0)43 3884408
cowan@merit.unu.edu

Prof. Franco Malerba (MSc thesis advisor)
President of CRIOS and former director of
KITES/CESPRI at Bocconi University, Italy
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