

# Giorgio Triulzi

Curriculum Vitae

April 5, 2022

Associate Professor (with tenure)  
Universidad de los Andes School of Management  
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Personal website: [giorgio-triulzi.com](http://giorgio-triulzi.com)  
LinkedIn: [here](#); Google Scholar: [here](#)

## EDUCATION

PhD in Economics and Policy Studies of Technical Change  
UNU-MERIT and Maastricht University, Maastricht, Netherlands  
2015

MSc. in Economics of International Markets and New Technologies (full grade cum laude)  
Bocconi University, Milan, Italy  
2009

Bachelor in Economics of International Markets and New Technologies  
Bocconi University, Milan, Italy  
2006

## PROFESSIONAL APPOINTMENTS

Associate Professor (with tenure)  
Universidad de los Andes, School of Management  
2022- to date

Assistant Professor  
Universidad de los Andes, School of Management  
2018- 2021

Postdoctoral Associate  
Massachusetts Institute of Technology, Institute for Data, Systems and Society  
2016-2017

Postdoctoral Researcher  
Singapore University of Technology and Design  
2015

## PUBLICATIONS

*Legend: \*\*\* single lead author with main contribution; \*\*co-lead author with equal contributions; \*no lead author but significant contribution; no stars = secondary role*

### Refereed journal articles

2021, Singh, A., **Triulzi, G.\*\***, & Magee, C. L. Technological improvement rate predictions for all technologies: Use of patent data and an extended domain description. *Research Policy*, 50(9), 104294.

2020, **Triulzi, G.\*\*\***, Alstott, J., & Magee, C. L. Estimating technology performance improvement rates by mining patent data. *Technological Forecasting and Social Change*, 158, 120100..

2020, **Triulzi, G.\*\*\***, & Magee, C. L. Functional performance improvement data and patent sets for 30 technology domains with measurements of patent centrality and estimations of the improvement rate. *Data in Brief*, 32, 106257.

2019, Sharifzadeh, M., **Triulzi, G.\*\***, & Magee, C. L. Quantification of technological progress in greenhouse gas (GHG) capture and mitigation using patent data. *Energy & Environmental Science*, 12(9), 2789-2805.

2019, Song, B., Yan, B., **Triulzi, G.**, Alstott, J., & Luo, J. Overlay technology space map for analyzing design knowledge base of a technology domain: the case of hybrid electric vehicles. *Research in Engineering Design*, 30(3), 405-423.

2018, Luo, J., & **Triulzi, G.\*** Cyclic dependence, vertical integration, and innovation: The case of Japanese electronics sector in the 1990s. *Technological Forecasting and Social Change*, 132, 46-55.

2018, Benson, C. L., **Triulzi, G.\*\***, & Magee, C. L. Is there a Moore's law for 3D printing?. *3D Printing and Additive Manufacturing*, 5(1), 53-62.

2017, Alstott, J., **Triulzi, G.\*\***, Yan, B., & Luo, J. Inventors' explorations across technology domains. *Design Science*, 3.

2017, Alstott, J., **Triulzi, G.\*\***, Yan, B., & Luo, J. Mapping technology space by normalizing patent networks. *Scientometrics*, 110(1), 443-479.

2014, **Triulzi, G.\*\*\***, Pyka, A., & Scholz, R. R&D and knowledge dynamics in university-industry relationships in biotech and pharmaceuticals: an agent-based model. *International Journal of Biotechnology*, 6, 13(1-3), 137-179.

2012, Bhupatiraju, S., Nomaler, Ö., **Triulzi, G.\***, & Verspagen, B. Knowledge flows—Analyzing the core literature of innovation, entrepreneurship and science and technology studies. *Research Policy*, 41(7), 1205-1218.

2011, **Triulzi, G.\*\*\***, & Pyka, A. Learning-by-modeling: Insights from an agent-based model of university–industry relationships. *Cybernetics and Systems*, 42(7), 484-501.

## **Book chapters**

2019, Hu, M., **Triulzi, G.\***, Sharifzadeh, M. Technological change in fuel cell technologies, in “Design and Operation of Solid Oxide Fuel Cells”, edited by Mahdi Sharifzadeh (ISBN 978-0-12-815253-9), pp. 3-41, Elsevier.

## **Manuscripts under review**

Park, I., **Triulzi, G.\***, Magee, C. L. Tracing the emergence of new technology: a comparative analysis of five technological domains. Under review.

## **Work in progress**

**Triulzi, G.\*\*\***, Magee, C. L. Studying the Evolution of the Backbone of Technology Development: Surveying Information Centrality in the Patent System.

**Triulzi, G.\*\***, Ruiz-Pava, G., Singh, A., Magee, C. L. Dynamic Mapping of Industry-Technology Linkages to Predict Economic Performance.

**Triulzi, G.\*\***, Ruiz-Pava, G. Comparison of Different Industry-Technology Cross-walks and their Validation.

Ruiz-Pava, G., **Triulzi, G.\***, Magee, C. L. From Knowledge Flows to Technical Information: Patent Citations as Signal of Technical Interactions.

**Triulzi, G.\*\*\*** How Effective are Latin American Coding Bootcamps as a Mean to Obtain an In-Field Job?

## **AWARDS**

Best poster award  
2015 Conference on Complex Systems  
Tempe, AZ, US, October 2015

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

## **GRANTS**

Fondo semilla del Comité de Investigación de la Facultad de Administración de la Universidad de los Andes  
2021, equivalent to 7.800 USD

Fondo semilla de la Oficina de Proyectos de la Facultad de Administración de la Universidad de los Andes  
2021, equivalent to 17.000 USD

Universidad de los Andes Vice-Presidency for Research Postdoctoral funding  
2019-2022, equivalent to 65.000 USD

MIT International Science and Technology Initiatives (MISTI)  
Project title: "Studying the Evolution of the Backbone of Technology Development"  
2019-2021, 25.000 USD

Fondo de Apoyo para Profesores Asistentes (FAPA) – Universidad de los Andes  
Project title: "Systematic empirical analysis of the rate and direction of technological change to identify potential high-growth and diversification pathways"  
2019-2022, equivalent to 32.000 USD

## **INVITED TALKS**

2022, Inter-American Development Bank, Competitiveness, Technology and Innovation Division, Brown Lunch Seminar Series. "Latin American Coding Bootcamps and In-field Employment: Analysis based on LinkedIn profiles of 1,000 alumni". April 27, 2022.

2022, Inter-American Development Bank, Competitiveness, Technology and Innovation Division, Brown Lunch Seminar Series. "Technological Improvement Rate Predictions for all Technologies". March 16, 2022.

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

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. March 11, 2019

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

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

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

## **CONFERENCE PARTICIPATION**

2021, International Joseph A. Schumpeter Society Conference, Rome, Italy

2019, European Meeting on Applied Evolutionary Economics, SPRU, University of Sussex

2018, DRUID Society Conference, Copenhagen Business School

2016, Micro Evidences on Innovation and Development Conference, Higher School of Economics, Moscow, Russia

2016, Global Tech-Mining Conference, Universidad Politécnica de Valencia, Spain

2016, International Joseph A. Schumpeter Society Conference, Montreal

2015, Conference on Complex Systems, Arizona State University

2015, International Asia-Pacific Innovation Conference, Zhejiang University of Science and Technology, Hangzhou, China

2015, European Meeting on Applied Evolutionary Economics, Maastricht University and UNU-MERIT, the Netherlands

2014, International Joseph A. Schumpeter Society Conference, Friedrich Schiller University, Jena, Germany

2014, New England Complex Systems Institute Summer Course in Complexity, Cambridge, MA

2013, International Asia-Pacific Innovation Conference, Taiwan National University

2013, European Meeting on Applied Evolutionary Economics, SKEMA Business School, Nice, France

2013, SUNBELT Social Networks Conference of the International Network for Social Network Analysis

2011, Globelics Conference, Buenos Aires, Argentina

2011, Dynamics of Institutions and Markets in Europe Conference, UNU-MERIT, Maastricht, the Netherlands

2010, Advances in Agent-Based Computational Economics, University of Bielefeld, Germany

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

2009, Conference of the Annual European Association for Evolutionary Political Economy, University of Amsterdam, the Netherlands

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

## CAMPUS TALKS

2021, “The Pace of Technological Innovation and Value Creation”, Seminario del Grupo de Investigación en Gestión Pública, 12-10-2021

2019, “Technological trajectories. What they are, why we should measure them, how to do it and why managers, economists, policy makers, university deans and chancellors should care”, INTERACT group meeting – 30 January 2019

## MEDIA COVERAGE

- The Wall Street Journal, “[New Research Busts Popular Myths About Innovation](#)”, Sept. 18, 2021
- Financial Times, “[Innovation still requires smart, even barmy, innovators](#)”, Sept. 2021
- Fast Company, “[MIT built a Google search to spot the most important tech innovations of the future](#)”, Oct. 10, 2021
- TNW, “[MIT researchers use AI to predict the next big things in tech](#)”, Aug. 4, 2021
- The Economic Times of India, “[New AI tool by MIT predicts how fast any technology is improving](#)”, Oct. 29, 2021
- Agendadigitale.eu, “[L’algoritmo che svela la velocità di cambiamento delle tecnologie: come funziona e a cosa serve](#)”, Nov. 2, 2021
- Atlantico.fr, “[Quelle vitesse pour l’innovation technologique future?](#)”, Nov. 19, 2021
- Deutsche Welle, “[Hyping the future: Our exponential era](#)”, 2018

## TEACHING EXPERIENCE

### Universidad de los Andes, School of Management

Undergraduate in Management

- Strategic Management of Technological Innovation
  - 2021-2<sup>nd</sup> semester
  - 2020-2<sup>nd</sup> semester
  - 2020-1<sup>st</sup> semester
  - 2019-2<sup>nd</sup> semester
  - 2019-1<sup>st</sup> semester
  - 2018-2<sup>nd</sup> semester
- Entrepreneurship and Innovation
  - 2021-2<sup>nd</sup> semester
  - 2021-1<sup>st</sup> semester
  - 2020-2<sup>nd</sup> semester
- Management of Public Goods (Gestión de lo Público)
  - 2018-1<sup>st</sup> semester

MSc and PhD in Management

- Business, Technology, Innovation, and Diffusion
  - 2019-2<sup>nd</sup> semester

- 2018-2<sup>nd</sup> semester
- Master and PhD in Technological Innovation Management
- Strategic Management of Technological Innovation 1
    - 2021-1<sup>st</sup> semester
    - 2020-1<sup>st</sup> semester
  - Strategic Management of Technological Innovation 2
    - 2020-2<sup>nd</sup> semester
- Master in Development Practice
- Laboratorio de Sostenibilidad
    - 2021-1<sup>st</sup> semester

**Singapore University of Technology and Design**

Introduction to Applied Statistics (graduate level)  
July – October 2015

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

September 2010 – August 2014

- Innovation in Economics and Business
- Microeconomics
- Principle of Economics
- International Economics
- Banking
- Development Economics

**SUPERVISION**

**Co-supervisor**

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

**Supervisor**

Fifteen 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

**CONSULTANCIES**

External consultant between 2020 and 2021 for the Inter-American Development Bank for a project to study the effectiveness of Latin-American coding bootcamps.

Part of team that consulted Ecopetrol (largest Colombian firm) while at Universidad de los Andes in 2020-2021 on the definition of their new Science, Technology and Innovation Strategy.

Part of team that performed contract research for Draper Laboratories while being a postdoc at MIT IDSS in 2016-2017.

## **SERVICE TO PROFESSION**

### **Journal manuscript review**

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

### **Conference Satellite Session Organizer**

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

## **SERVICE TO MY UNIVERSITY**

February 2022-to date, Member of the International Accreditation Committee, Universidad de los Andes, School of Management

August 2019 - to date, Co-organizer of Agora Research Seminar Series at School of Management, Universidad de los Andes

2021, Part of team that consulted Ecopetrol (largest Colombian firm)

May 2019-March 2020, Member of the International Accreditation Committee, Universidad de los Andes, School of Management

2018-2019, Member of the Exchange and Double-Degree Program Committee, Universidad de los Andes, School of Management

## **PROFESSIONAL MEMBERSHIPS**

International Joseph A. Schumpeter Society



## **LANGUAGES**

Italian (native)

English (fluent)

Spanish (fluent)

French (medium)