

# CARLO CAVICCHIA

## PERSONAL DATA

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## CURRENT POSITION

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**Assistant Professor of Statistics**

*May 2020 - Present*

Econometric Institute, Erasmus School of Economics, Erasmus Rotterdam University, Rotterdam

## EDUCATION

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**Ph.D. in Statistics**

*November 2016 - February 2020*

Department of Statistical Sciences, University of Rome La Sapienza, Rome

Thesis title: *Hierarchical latent variable models for dimensionality reduction: an application on composite indicators*; Supervisor: Prof. M. Vichi

**MSc Degree in Statistics and Decision Science**

*November 2013 - January 2016*

University of Rome La Sapienza, Rome

110/110 with honors

**BSc Degree in Statistics**

*November 2009 - July 2013*

University of Rome La Sapienza, Rome

105/110

## RESEARCH AND TEACHING INTERESTS

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Multivariate Statistics

Non-parametric Statistics

Data Science

Latent Variable Models

Composite Indicators

Unsupervised Classification

## RESEARCH EXPERIENCES

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**Research visit**

*November 2019 – December 2019*

Econometric Institute, Erasmus School of Economics, Erasmus Rotterdam University, Rotterdam

Supervisor: Prof. P.J.F. Groenen

**Research fellowship**

*May 2019 – April 2020*

Department of Law and Economics, University of Rome UnitelmaSapienza, Rome

Supervisor: Prof. P. Sarnacchiaro

**Researcher on a project**

*March 2016 – November 2018*

Department of Statistical Sciences, University of Rome La Sapienza, Rome

Title: *Development of a procedure to detect and manage outliers for big data*

Supervisor: Prof. M. Vichi and ENEA

**Researcher on a project**

*March 2016 – January 2017*

Department of Statistical Sciences, University of Rome La Sapienza, Rome

Title: *Construction of a hierarchical non-negative and disjoint composite indicator for a set of quantitative variables*

Supervisor: Prof. M. Vichi

## GRANTS AND AWARDS

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**Research Grant for Junior Researcher**

*August 2017*

University of Rome La Sapienza, Rome

**Best report of Stats under the stars<sup>3</sup>**

*June 2017*

Italian Statistical Society (SIS)

## FEATURED PUBLICATIONS

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Cavicchia, C., M. Vichi, and G. Zaccaria: *Gaussian Mixture Model with an extended ultrametric covariance structure*. In: *Advances in Data Analysis and Classification* (2022). DOI: [10.1007/s11634-021-00488-x](https://doi.org/10.1007/s11634-021-00488-x).

Cavicchia, C. and P. Sarnacchiaro: *The effect of a new e-tivity on students' performance and satisfaction in an online course*. In: *Statistica Applicata - Italian Journal of Applied Statistics* 33.2 (2021), pp. 163–175. DOI: [10.26398/IJAS.0033-009](https://doi.org/10.26398/IJAS.0033-009).

Cavicchia, C. and M. Vichi: *Second-order disjoint factor analysis*. In: *Psychometrika* (2021). DOI: [10.1007/s11336-021-09799-6](https://doi.org/10.1007/s11336-021-09799-6).

Cavicchia, C. and P. Sarnacchiaro: *A multi-group higher-order factor analysis for studying the gender-effect in teacher job satisfaction*. In: *METRON* (2021). DOI: [10.1007/s40300-021-00204-x](https://doi.org/10.1007/s40300-021-00204-x).

Cavicchia, C., P. Sarnacchiaro, and M. Vichi: *A composite indicator for the waste management in the EU via hierarchical disjoint non-negative factor analysis*. In: *Socio-Economic Planning Sciences* 73 (2021), p. 100832. DOI: [10.1016/j.seps.2020.100832](https://doi.org/10.1016/j.seps.2020.100832).

Cavicchia, C. and M. Vichi: *Statistical model-based composite indicators for tracking coherent policy conclusions*. In: *Social Indicators Research* 156.2 (2021), pp. 449–479. DOI: [10.1007/s11205-020-02318-7](https://doi.org/10.1007/s11205-020-02318-7).

Cavicchia, C., M. Vichi, and G. Zaccaria: *The ultrametric correlation matrix for modelling hierarchical latent concepts*. In: *Advances in Data Analysis and Classification* 14.4 (2020), pp. 837–853. DOI: [10.1007/s11634-020-00400-z](https://doi.org/10.1007/s11634-020-00400-z).

## INVITED TALKS AND SEMINARS

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**Seminar series “Introduction to Statistics”** *February 2022*

Hospitality Management - Federico II University of Naples

Invited Seminar Series

**ISI 2021 - 63<sup>rd</sup> International Statistical Institute World Statistics Congress “Statistics and Data Science for a Better World”** *July 2021*

Virtual conference

Invited Session

**EconJobMarket** *December 2019*

Erasmus University Rotterdam - Econometric Institute, Rotterdam

Invited Seminar

**ASA 2019 Scientific Conference on Statistics for Health and Well-Being** *September 2019*

University of Brescia, Brescia

Invited Session

**12<sup>nd</sup> Scientific Meeting of Classification and Data Analysis Group** *September 2019*

Folcara Campus of the University of Cassino and Southern Lazio, Cassino

Invited Session

**49<sup>th</sup> Scientific meeting of the Italian Statistical Society** *June 2018*

University of Palermo, Palermo

Invited Session

**Workshop: Selection and Synthesis of Indicators for Sustainable Development Goals: Methodologies and Applications** *October 2017*

University of Rome La Sapienza, Rome

Invited Session

## TEACHING

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<b>Lecturer</b>	2022 - Present
Econometric Institute, Erasmus University Rotterdam, Rotterdam	
Seminar Case Studies in Business Analytics and Quantitative Marketing	
<b>Lecturer</b>	2022 - Present
Department of Law and Economics, University of Rome UnitelmaSapienza, Rome	
Multivariate Statistics, <i>I level master: "Analysis and modelling of data and processes: methods and models"</i>	
<b>Lecturer</b>	2021
Econometric Institute, Erasmus University Rotterdam, Rotterdam	
Seminar in Business Analytics and Quantitative Marketing	
<b>Lecturer</b>	2021 - Present
Department of Management and Law, Tor Vergata University of Rome, Rome	
Applied multivariate analysis with SAS	
<b>Lecturer</b>	2020 - Present
Econometric Institute, Erasmus University Rotterdam, Rotterdam	
Seminar Data Science for Marketing Analytics	
<b>Lecturer</b>	2020 - 2021
Department of Law and Economics, University of Rome UnitelmaSapienza, Rome	
Statistical Methods for Composite Indicators Construction, <i>II level master: "Quantitative methods and models for decision support"</i>	
<b>Lecturer</b>	2020 - 2021
Department of Law and Economics, University of Rome UnitelmaSapienza, Rome	
R Lab - Statistics, <i>II level master: "Quantitative methods and models for decision support"</i>	
<b>Teaching assistant</b>	2020
Department of Business and Management, LUISS, Rome	
Statistics (Prof. M. Perone Pacifico)	
<b>Teaching assistant</b>	2020
Department of Management and Law, Tor Vergata University of Rome, Rome	
SAS Lab - Business Statistics (Prof. S. Borra)	
<b>Subject Expert and Teaching Assistant</b>	2019 - Present
Department of Law and Economics, University of Rome UnitelmaSapienza, Rome	
Statistics	
<b>Teaching assistant</b>	2019 - 2020
School of Economics, Tor Vergata University of Rome, Rome	
Statistics (Dr. M. Ranalli), <i>Master of Science in Development Economics and International Cooperation</i>	
<b>Student Assistant</b>	2019 - 2020
Department of Law and Economics, University of Rome UnitelmaSapienza, Rome	
Statistics and maths	
<b>Lecturer</b>	2019
School of Economics, Tor Vergata University of Rome, Rome	
Statistics, <i>Master of Science in European Economy and Business Law</i>	
<b>Teaching assistant</b>	2018 - 2020
Department of Medicine, University of Rome La Sapienza, Rome	
Statistics (Prof. M. Vichi)	
<b>Teaching assistant</b>	2017 - 2018
Department of Political Sciences, Roma Tre University of Rome, Rome	
Statistics (Prof. F. Lagona and Dr. M. Ranalli)	
<b>Teaching assistant</b>	2016 - 2020
Department of Statistical Sciences, University of Rome La Sapienza, Rome	
Advances in Data Analysis and Statistical Modelling (Prof. M. Vichi)	

**Teaching assistant**

2016 - 2020

Department of Statistical Sciences, University of Rome La Sapienza, Rome  
Multivariate Statistics (Prof. M. Vichi)

**ACADEMIC AND EDITORIAL SERVICES**

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<b>Organizer of an invited session of ECDA 2022</b>	2022
<b>Co-editor of "Book of Short Papers of SIS 2022"</b>	2022
<b>National coordinator of y-SIS</b>	2022
<b>Member of the scientific programme committee of SIS 2022</b>	2022
<b>Member of the scientific programme committee of IES 2022</b>	2022
<b>Member of the national board of y-SIS</b>	2021 - 2022
<b>Member of the organizing committee of DSSV-ECDA 2021</b>	2021
<b>Member of the organizing committee of DSSV 2020</b>	2020
<b>Member of the admission committee of II level master: "Quantitative methods and models for decision support", University of Rome UnitelmaSapienza</b>	2020
<b>Organizer of an invited session of SIS 2020</b>	2020
<b>Reviewer for a number of scientific journals in Statistics:</b>	2018 - Present
Journal of Data Science, Statistics and Visualisation; PLOS ONE; Annals of Operations Research; Computational Statistics; METRON; SN Business & Economics; Journal of Statistical Computation and Simulation; Advances in Data Analysis and Classification	

**WORK EXPERIENCES**

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<b>Consultant as Lead Statistician</b>	October - December 2019
Project: <i>Survey in Zanzibar on community socio-economic conditions</i> , ARS Progetti S.P.A., Rome	
<b>Consultant as Supervisor</b>	July - October 2019
Project: <i>Survey in Zanzibar on environmental cleanliness, public service perception and tourism competitiveness</i> , NGO Fondazione ACRA, Rome	
<b>Consultant as Lead Statistician</b>	June - August 2018
Project: <i>Survey within the framework of the "Consultancy Services to support community engagement and awareness within the Urban Municipal Council"</i> , NGO Fondazione ACRA, Zanzibar, Tanzania	

**LANGUAGES**

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<b>Italian</b>	Native language
<b>English</b>	Speaking: C1 Writing: C2

**EXTRA-CURRICULAR**

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- President and Co-Founder "ASD Valcanneto Futsal" (Cerveteri, 2018 - 2021)
- Attended the 1<sup>st</sup> International Summer School on Classification and Data Analysis (Rimini, 2017)
- Attended a Erasmus semester at University College of Dublin (Dublin, 2012)