

## Federico Crudu - August 2025

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CONTACT INFORMATION	Piazza San Francesco, 7-8 DEPS Università di Siena Siena, Italia.	<i>E-mail:</i> federico.crudu@unisi.it <i>Web:</i> <a href="https://sites.google.com/site/federicocrudu/">https://sites.google.com/site/federicocrudu/</a>
RESEARCH AND TEACHING INTERESTS	Econometrics and statistics (empirical likelihood methods, generalized method of moments, instrumental variables, many instruments asymptotics); applied econometrics.	
EDUCATION	<b>University of York, York, UK</b> D. Phil. Economics, 23 January 2010 <ul style="list-style-type: none"><li>• Thesis title: “Essays on Generalized Empirical Likelihood and Time Series”</li><li>• Supervisors: Dr. Francesco Bravo (main), Dr. Fabrizio Iacone</li><li>• Thesis committee: Dr. Patrick Marsh, Dr. Jan Podivinsky</li></ul> <b>University of Warwick, Coventry, UK</b> M.Sc. Economics, January 2005 <b>Università degli Studi di Cagliari, Cagliari, Italy</b> Laurea Political Science and Economics, February 2003	
APPOINTMENTS	<b>Università degli Studi di Siena, Siena, Italy</b> <i>Associate professor</i>	<b>2023 - present</b>
	<b>Università degli Studi di Siena, Siena, Italy</b> <i>Assistant professor</i>	<b>2016 - 2023</b>
	<b>Pontificia Universidad Católica de Valparaíso, Valparaíso, Chile</b> <i>Assistant professor</i>	<b>2013 - 2017</b>
	<b>Università degli Studi di Sassari, Sassari, Italy</b> <i>Postdoc</i>	<b>2011 - 2013</b>
	<b>University of Groningen, Groningen, The Netherlands</b> <i>Postdoc</i>	<b>2009 - 2011</b>
	<b>CRENoS, Cagliari, Italy.</b> <i>Associated researcher</i>	<b>2003 - present</b>
	<b>HEDG, University of York, York, UK.</b> <i>External affiliate</i>	<b>2018 - present</b>
ADMINISTRATION	Teaching committee LM in Economics, Università degli Studi di Siena ( <a href="#">link</a> ).	<b>2024 - present</b>

Board member, PhD programme in Economics of the Tuscan Universities ([link](#)). **2024 - present**  
Erasmus coordinator, Università degli Studi di Siena. **2017 - present**

WORK IN PROGRESS *An Invariant Modification of the Bilinear Form Test* (with A. Garate and F. Osorio), 2025. Submitted *Sankhya, Series A*.

*Expert Opinions and the Assessment of Tipping Points* (with M. Basili), 2025. Submitted *Environmental Modeling & Assessment*. ([current version](#)).

*Terror and Turnout* (with C. Caporali and C. Detotto), 2024.

*Jackknife Instrumental Variable Inference* (with G. Mellace and Z. Sándor), 2023.

*Errors-in-Variables Models with Many Proxies* (with A. Moharir and Z. Sándor), 2023 ([first version](#)).

PUBLICATIONS *On the Role of the Zero Conditional Mean Assumption for Causal Inference in Linear Models* (with M. C. Knaus, G. Mellace and J. Smits). ([current version](#)). Forthcoming *Canadian Journal of Economics*.

*The Gray Zone: How not Imposing a Strict Lockdown at the Beginning of a Pandemic Can Cost Many Lives* (with R. Di Stefano, G. Mellace and S. Tiezzi), 2024, *Labour Economics*. ([link](#)).

*Narrow and Wide Replication of Chalfin and McCrary (REStat, 2018)* (with A. Moharir), 2024, *Journal of Applied Econometrics*. ([link](#) and [replication files](#)).

*Blockwise Euclidean Likelihood for Spatio-Temporal Covariance Models* (with M. Bevilacqua and V. Morales), 2021, **20**, 176-201, *Econometrics and Statistics* ([link](#)).

*Inference in Instrumental Variables Models with Heteroskedasticity and Many Instruments* (with G. Mellace and Z. Sándor), 2021, **37**(2), 281-310, *Econometric Theory* ([link](#)).

*Family Ties and Child Obesity in Italy* (with L. Neri and S. Tiezzi), 2021, **40**, 100951, *Economics and Human Biology* ([link](#)).

*Bilinear Form Test Statistics for Extremum Estimation* (with F. Osorio), 2020, 108885, *Economics Letters* ([link](#)).

*Z-Estimators and Auxiliary Information for Strong Mixing Processes* (with E. Porcu), 2019, *Stochastic Environmental Research and Risk Assessment*, **33**, 1-11 ([link](#)).

*Innovation and Cost Efficiency in the Banking Industry: the Role of Electronic Payments* (with G. Ardizzi and C. Petraglia), 2019, *Economic Notes*, **48**, 12121 ([link](#)).

*On the Finite Sample Properties of Conditional Empirical Likelihood Estimators* (with Z. Sándor), 2017, *Communications in Statistics - Simulation and Computation*, **46**, 1520-1545 ([link](#)).

*Jackknife Instrumental Variable Estimation with Heteroskedasticity* (with P. A. Bekker), 2015, *Journal of Econometrics*, **185**, 332-342 ([link](#)).

*Combining Euclidean and Composite Likelihood for Binary Spatial Data Estimation* (with M. Bevilacqua and E. Porcu), 2015, *Stochastic Environmental Research and Risk Assessment*,

29, 335-346 ([link](#)).

*Efficient Bootstrap with Weakly Dependent Processes* (with F. Bravo), 2012, *Computational Statistics and Data Analysis*, **56**, 3444-3458 ([link](#)).

OTHER  
PUBLICATIONS

*Discussion on “Causal inference by using invariant prediction: identification and confidence intervals”* by J. Peters et al. (with F. López and E. Porcu), 2016 *Journal of the Royal Statistical Society, B*, **78**, 995-996.

*Discussion on “Multiscale change point inference”* by K. Frick et al. (with E. Porcu and M. Bevilacqua), 2014 *Journal of the Royal Statistical Society, B*, **76**, 546.

REFEREE ACTIVITY

Review of Economic Studies (1), Journal of Wine Economics (1), Research Grants Council of Hong Kong (2), Communications in Statistics – Theory and Methods (1), Japanese Journal of Data Science and Statistics (1), Econometrics and Statistics (1), Network Science (1), Computational Economics (2), Economics and Human Biology (1), Italian Economic Journal (1), Journal of Multivariate Analysis (2), Environmetrics (1), Economic Notes (1), Bulletin of Economic Research (1), Advances in Statistical Analysis (1), Health Economics (1), Cogent Economics and Finance (2), Cogent Mathematics (1), Statistical Methods and Applications (1), Spring Meeting of Young Economists (2), Stochastic Environmental Research and Risk Assessment (4), Journal of Econometrics (1).

CONFERENCE  
ORGANIZATION

- Siena Workshop on Econometric Theory and Applications, Siena (Italy), 2023 ([link](#)).
- Member of the Scientific Program Committee of the 12th International Conference of the ERCIM WG on Computational and Methodological Statistics in London (UK), 2019.
- Session on “Topics in Spatial and Space-Time Statistics” at the 12th International Conference of the ERCIM WG on Computational and Methodological Statistics in London (UK), 2019.
- Session on “Instrumental Variables: Theory and Applications” at the 11th International Conference of the ERCIM WG on Computational and Methodological Statistics in Pisa (Italy), 2018.
- Member of the local organizing committee of the II Latin American Conference on Statistical Computing, Valparaiso, 9th-11th March 2017.

GRANTS

- PRIN 2022 (Italian Government) *SHE-WINS: Stem in Higher Education & Women INequalities* (Researcher; Principal Investigator Antonella D’Agostino). ([link](#))
- F-CUR (University of Siena): *Jackknife Instrumental Variable Inference* (about 17000 Euros, 2022-2023).
- Fondecyt Regular (Chilean Government): *Modeling and Estimation of Multivariate Spatio Temporal Random Fields* (Co-investigator; Principal Investigator Moreno Bevilacqua, about 110000 Euros, 2016-2020).
- Fondecyt Iniciación en Investigación (Chilean Government): *Inference in Instrumental Variable Models with Heteroskedasticity* (about 75000 Euros, 2014-2016).

CONFERENCE  
PRESENTATIONS

**2025**: International Association for Applied Econometrics Conference, Turin, Italy. **2024**: Rome Workshop on Econometrics: Frontiers in Causal Inference, Rome, Italy; University of Groningen Workshop on Causal Inference + Machine Learning, Groningen, The Netherlands. **2023**: Siena Workshop on Econometric Theory and Applications, Siena, Italy; Tenth Italian Congress of Econometrics and Empirical Economics, Cagliari, Italy. **2022**: Nordic Health Economic Study Group 2022, Gothenburg, Sweden. **2019**: Nordic Health Economic Study Group 2019, Reykjavik, Iceland; International Association for Applied Econometrics Conference, Nicosia, Cyprus. **2018**: Eighth Italian Congress of Econometrics and Empirical Economics, Lecce, Italy; 11th International Conference of the ERCIM WG on Computational and Methodological Statistics, Pisa, Italy. **2016**: Econometrics and Financial Statistics Workshop, Valparaiso, Chile. **2015**: Workshop on Applied Microeconomics and Microeconometrics, Universidad de Alicante, Alicante, Spain. **2014**: LXXXIII

Encuentro Anual Sociedad de Matematica de Chile; IV Jornada de Investigación en Ciencias de la Pontificia Universidad Católica de Valparaíso. **2013**: LATAM Workshop in Econometrics, São Paulo School of Economics, São Paulo, Brazil; First Workshop on Seismomatics, Concepción, Chile; XL Jornadas Nacionales de Estadística, Valparaiso, Chile; XIX Semana de la Estadística en Valparaiso, Valparaiso, Chile; Italian Congress on Econometrics and Empirical Economics, Genova, Italy. **2012**: Spring Meeting of Young Economists, Mannheim; Recent Developments in Time Series Analysis, University of Sassari, Sassari. **2011**: NAKE Day, Utrecht, The Netherlands; STATEC, Luxemburg. **2010**: Spring Meeting of Young Economists, Luxemburg; Netherlands Econometrics Study Group Conference, Leuven, Belgium; Royal Economic Society Conference, Guildford, UK. **2009**: 3rd International Conference on Computational and Financial Econometrics, Limassol; RES PhD meeting, London, UK.

SEMINAR  
PRESENTATIONS

**2024**: University of Genova, Genova, Italy. **2023**: St. Petersburg State University (online), Russia. **2022**: Gran Sasso Science Institute, L'Aquila, Italy. **2020**: VERB Seminar, Cornell University, USA (online). **2019**: PUC, Santiago de Chile, Chile. **2018**: University of Cagliari, Cagliari, Italy; University of Siena, Siena, Italy. **2017**: University of Sassari, Sassari, Italy. **2016**: Università di Corsica Pasquale Paoli, Corte, France. **2015**: Universidad Adolfo Ibañez, Viña del Mar, Chile; University of Southern Denmark, Odense, Denmark; Università di Cagliari, Cagliari, Italy. **2014**: Ca' Foscari University, Venice, Italy; Pontificia Universidad Católica de Chile, Santiago de Chile, Chile. **2012**: Università di Cagliari, Cagliari, Italy. **2011**: University of Exeter, Exeter, UK. **2009**: University of Groningen, Groningen, The Netherlands. **2008**: University of York, York, UK; Università di Cagliari, Cagliari, Italy.

COMPUTER SKILLS

- Statistical Packages: R (intermediate), Julia (beginner).
- Applications: L<sup>A</sup>T<sub>E</sub>X (T<sub>E</sub>X works), LibreOffice.
- Operating Systems: Linux (Mint, Ubuntu), MacOS.

LANGUAGES

Italian native, Sardinian native, English advanced, Spanish intermediate.