

# Simone Cenci

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## SUMMARY

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I am an Advanced Research Fellow at Imperial College Business School. My research lies at the intersection of sustainability, social, and data science. It primarily focuses on understanding what corporations do to lower their environmental impact and how they can change their management practices to contribute to sustainable development. The overarching goal of my research agenda is to use data, statistics and causal reasoning to provide knowledge and tools that scholars, industry leaders and policymakers can use to help organisations facilitate the transition towards a sustainable economy.

## WORK EXPERIENCE

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**Imperial College Business School**, London, UK 2021-Present  
Advanced Research Fellow and Data Scientist  
Affiliations: Data Science Institute | Transition to zero pollution | Systems network  
Keywords: Sustainability behaviour | Data Science | Sustainable development

**Blackstone Credit (formerly DCI, LLC)**, San Francisco, CA, USA 2019-2021  
Postdoctoral research associate  
Keywords: Capital structure | Credit markets | Macrostrategies

## EDUCATION

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**Massachusetts Institute of Technology**, Cambridge, MA, USA 2016-2019  
Ph.D. in Civil and Environmental Engineering  
Thesis: [Parametric and nonparametric approaches to explain and predict nonlinear population dynamics in changing environments](#)  
Advisor: Prof. Serguei Saavedra  
GPA: 5.0/5.0  
[Best thesis award](#)  
Keywords: Climate change | nonlinear time series analysis | statistical learning

**University of Pisa**, Pisa, Italy 2013-2015  
M.Sc in Physics  
Thesis: [A field theoretical approach to stationarity in reaction-diffusion processes](#)  
Advisors: Dr. Gunnar Pruessner (Imperial College), Prof. Ettore Vicari  
GPA: 110/110 cum laude  
Best thesis award  
Keywords: Stochastic processes | field theory | mathematical physics

**University of Rome “La Sapienza”**, Rome, Italy 2009-2012  
B.Sc in Physics and Astrophysics  
Thesis: Studies on dark energy  
Advisor: Prof. Alessandro Melchiorri  
GPA: 104/110  
Best thesis award  
Keywords: Mathematical Physics | field theory | Cosmology

## TEACHING & OUTREACH

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**Big Data Analytics, Imperial College London** 2022  
Invited Lecturer

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 UNDER REVIEW
 

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- **Simone Cenci**. A large-scale analysis of the heterogeneity of markets' reactions to the disclosure of non-financial information. Under Review in the *Journal of Sustainable Finance & Investment*.
- **Simone Cenci**, Matteo Burato, Marek Rei, and Maurizio Zollo. Business sustainability behaviour and alignment with climate targets. Under Review in *PNAS Nexus*. Available at <https://doi.org/10.21203/rs.3.rs-1711150/v2>.
- **Simone Cenci**, Marek Rei, and Maurizio Zollo. An analysis of corporate sustainability behaviour through the lens of empirical fitness landscapes. Under Review in *Organisation Science* Available at SSRN: [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=4205664](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4205664).

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 WORKING PAPERS
 

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- Matteo Burato, Samuel Tang, Vincenzo Vastola, and **Simone Cenci**. System thinking organisations and climate targets. In preparation.
- **Simone Cenci**, Zahra Hashemzadeh, Lu Liu, and Hossein Asgharian. Sustainability behaviour in competitive environments. In preparation.
- Antigoni Theocharidou and **Simone Cenci**. How do climate and reporting regulations influence corporate sustainability behaviour? In preparation.

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 JOURNAL ARTICLES
 

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- **Simone Cenci** and Stephen Kealhofer. [A causal approach to test empirical capital structure regularities](#). *The Journal of Finance and Data Science*, 8:214–232, November 2022.
- Rahul Krishnan, **Simone Cenci**, and Lydia Bourouiba. [Mitigating bias in estimating epidemic severity due to heterogeneity of epidemic onset and data aggregation](#). *Annals of Epidemiology*, 65:1–14, January 2022.
- **Simone Cenci**, Lucas P. Medeiros, George Sugihara, and Serguei Saavedra. [Assessing the predictability of nonlinear time series under smooth parameter changes](#). *Journal of The Royal Society Interface*, 17(162):20190627, 2020.
- **Simone Cenci** and Serguei Saavedra. [Nonparametric estimation of the structural stability of non-equilibrium community dynamics](#). *Nature Ecology & Evolution*, 3(6):912–918, 2019.
- **Simone Cenci**, George Sugihara, and Serguei Saavedra. [Regularized S-map for inferring and forecasting with noisy ecological time series](#). *Methods in Ecology and Evolution*, 10(5):650–660, 2019.
- **Simone Cenci**, Ana Montero-Castaño, and Serguei Saavedra. [Estimating the effect of the reorganization of the interactions on the adaptability of species to changing environments](#). *Journal of Theoretical Biology*, 437:115–125, 2018.
- **Simone Cenci** and Serguei Saavedra. [Structural Stability of Nonlinear Population Dynamics](#). *Phys. Rev. E*, 97:012401, 2018.
- **Simone Cenci** and Serguei Saavedra. [Uncertainty quantification of the effect of biotic interactions on community dynamics from nonlinear time series data](#). *Journal of The Royal Society Interface*, 15(147):20180695, 2018.
- **Simone Cenci**, Chuliang Song, and Serguei Saavedra. [Rethinking the importance of the structure of ecological networks under an environment-dependent framework](#). *Ecology and Evolution*, 8(14):6852–6859, 2018.
- Serguei Saavedra, **Simone Cenci**, Ek del Val, Karina Boege, and Rudolf P. Rohr. [Reorganization of interaction networks modulates the persistence of species in late successional stages](#). *Journal of Animal Ecology*, 86(5):1136–1146, 2017.

## BRIEFING PAPERS

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- Neveen Abdelrehim, **Simone Cenci**, Lucia Corsini, et al. [The Urgency of Climate Mitigation for COP27 and Beyond](#). UUCN Briefing, 2022.

## CONFERENCE TALKS

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- **Simone Cenci** and Stephen Kealhofer. *An un-omitted variable problem*. **Invited Speaker** Consortium for data analytics in risk (CDAR), University of California, Berkeley, 2023.
- Samuel Tang, **Simone Cenci**, Maurizio Zollo, and Livio Scalvini. *What form of business enterprise will enable a green recovery?* Climate Expo, 2021.
- **Simone Cenci**. *When is the best time to predict time series data?* **Invited speaker**, Next generation empirical dynamic tools, NOAA, Santa Cruz, 2019.
- **Simone Cenci**. *Regularization methods in ecological time series analysis: inference, forecasting and identifiability*. Woods Hole Oceanographic Institute, 2018.
- **Simone Cenci**. *Statistical inference of biotic interactions from noisy time-series data*. National Autonomous University of Mexico, Mexico City, Mexico, 2018.
- **Simone Cenci**. *Towards a model-free understanding of nonlinear population dynamics in changing environments*. **Invited speaker**, Department of biology, Woods Hole Oceanographic Institute, 2018.
- **Simone Cenci**, Chuliang Song, and Serguei Saavedra. *A structural approach to link networks structure, dynamics and perturbations*. CompleNet, Boston, 2018.
- **Simone Cenci**, George Sugihara, and Serguei Saavedra. *Inference and forecasting from noisy ecological time series*. ESA Annual meeting, New Orleans, 2018.
- **Simone Cenci**, Ana Montero-Castaño, and Serguei Saavedra. *Estimating the impact of structural plasticity on the adaptability of species to changing environments*. ESA Annual meeting, Portland, 2017.
- **Simone Cenci**, Chiu Fan Lee, and Gunnar Pruessner. *Fluctuation and nonuniversality in reaction-diffusion processes: a field theoretical approach*. MIT meeting on mathematical ecology, MIT, Cambridge, MA, USA, 2016.
- **Simone Cenci**, Chiu Fan Lee, and Gunnar Pruessner. *A field-theoretical approach to non-universal properties of the contact process with diffusion*. Physics of Emergent Behavior II, Science Museum, London, UK, 2015.

## FUNDING & AWARDS

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<b>Royal Society Pairing Scheme</b> The Royal Society	2023
<b>Policy Support Fund</b> <i>Facilitating research-policy knowledge exchange on the behavioural implications of climate policies (£13380)</i> Imperial College Policy Forum	2022
<b>CEE Department Best Doctoral Thesis</b> Massachusetts Institute of Technology	2019

## PROFESSIONAL ACTIVITIES

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Academic Fellow of the Data Science Institute  
Editorial Board Member for *Humanities & Social Sciences Communications*  
Scientific Committee Member for *GOLDEN for Impact*  
Reviewer for *Proceeding of the National Academy of Science, Strategic Management Society, Physica A, Ecology Letter, Cell Press*  
Organiser of the *Understanding the impact of environmental policies on corporate sustainability behaviour* workshop at Imperial College  
Co-organiser of the *MIT ecology* workshop at the Massachusetts Institute of Technology

## STUDENTS

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Rakotoharisoa, Andrianirina 2022-  
Ph.D. Student in Earth Science & Engineering and Business School  
*Estimating the environmental impact of business operations with machine learning from satellite data*

Antigoni Theocharidou 2022-  
Research Assistant in the Business School  
*How do climate and reporting regulations influence firms' sustainability behaviour?*

Carlos Cado 2022  
Executive MBA  
*Sustainability at the gate: An empirical study of the increasing influence of ESG on the performance of acquisitive corporates*

Jiacong Jiang 2022  
MSc Environmental Data Science and Machine Learning  
*Can corporate sustainability behaviour explain environmental ratings?*

## CONSULTING

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Blackstone Credit 2021-2022

## REFERENCES

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References available upon request