



Cecilia Bittoni

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ABOUT ME

My professional journey revolves around merging the realms of climate change and financial markets, leveraging a profound understanding of sustainability and ESG principles. Trained as an Economist, I've dedicated my career to understanding natural catastrophe and climate risks advocating for the infusion of climate science into both business strategies and policy-making processes. I specialise in integrating natural catastrophe and climate risk analytics into mainstream risk management tools and platforms, empowering financial institutions to navigate risks, allocate resources toward adaptation and resilience, and unearth growth opportunities amidst the transition.

WORK EXPERIENCE

05/2020 – CURRENT Turin, Italy

LECTURER AT MASTER PROGRAMME - CLIMATE CHANGE: ADAPTATION AND MITIGATION SOLUTIONS DEPARTMENT OF ENVIRONMENT, LAND AND INFRASTRUCTURE ENGINEERING (DIATI), POLITECNICO OF TURIN

Organiser and co-lecturer of course on Catastrophe modelling and (Re)insurance.

Designed and delivered modules covering the crucial topics:

- Catastrophe Models: Hazard, Exposure, Vulnerability
In-depth exploration of the components constituting catastrophe models, including hazard assessment, exposure analysis, and vulnerability estimation.
- Use of CAT Models for Financial Risk Assessment
Illustrating the application of Catastrophe (CAT) Models in evaluating financial risk, particularly emphasising their role in portfolio risk management strategies. Physical Vs. Financial Resilience: Role of (Re)insurances
Distinguishing between physical and financial resilience, elucidating the pivotal role of (re)insurance within this context. Topics include underwriting principles, capital requirements, and regulatory frameworks.
- CAT Models and Climate Change
Analysing the intersection of Catastrophe Models with the pressing issue of climate change. Delving into how these models adapt and respond to the challenges posed by climate change scenarios

Website https://www.diati.polito.it/focus/dipartimento_di_eccellenza_sui_cambiamenti_climatici_2018_2022/master_di_ii_livello

31/08/2020 – 30/06/2021 Bologna, Italy

PROJECT CONSULTANT CMCC - EURO-MEDITERRANEAN CENTER ON CLIMATE CHANGE

CMCC explored the development of a cutting-edge mid-term climate forecasting model by integrating seasonal to decadal forecasting models. This innovation aimed to empower the insurance market by enabling more informed and profitable business decisions: from underwriting individual risks to optimising portfolio management, strategically placing reinsurance programs, and enhancing capital retention strategies.

My consultancy role involved facilitating a multidisciplinary collaboration, fostering a crucial link between scientists at CMCC and the client, Unipol Leithà. This collaboration aimed to align groundbreaking scientific insights with the pragmatic needs and objectives of the business, ensuring the application of robust climate forecasting methods for strategic decision-making within the insurance sector.

Website www.cmcc.it

31/01/2021 – 27/05/2021 Ravenna, Italy

RISK EXPERT STUDIOMAPP S.R.L.

Conducted comprehensive market analyses instrumental in shaping the strategic direction of an internal Risk Unit dedicated to Climate Intelligence platforms and services. Leveraging computer vision techniques applied to satellite data, I led initiatives to assess and quantify environmental and climate risk, enhancing the organisation's capacity for proactive risk management.

Successfully spearheaded a project financed by the European Space Agency (ESA) focusing on harnessing space technology. This project was aimed at implementing the objectives outlined in the Sendai Framework for Disaster Risk Reduction 2015-2030 through effective use of space-based technology.

Website www.studiomapp.com

02/1998 – 06/2002 London, United Kingdom

DIRECTOR INTERNATIONAL CLIENT SERVICES AND ANALYTICAL SERVICES GROUP RISK MANAGEMENT SOLUTIONS LTD. (MOODY'S RMS)

Played a pivotal role in expanding the UK and European markets by significantly growing the client base, primarily within insurance and reinsurance sectors. Established and led both the International Client Services and Analytical Services departments, assuming managerial responsibilities for the entire group.

Accumulated extensive expertise in conducting financial consultations for insurance, reinsurance companies, financial intermediaries, and governmental institutions across the UK, Europe, Asia, and Australia. Specialised in managing financial risks stemming from global exposure to natural catastrophes, utilising RMS country/peril models to provide comprehensive risk management strategies.

Key accomplishments included:

- Spearheading training initiatives for RMS customers, imparting expertise in CAT modelling and the utilisation of RMS software.
- Advising clients on Portfolio Management and conducting comprehensive studies for countrywide insurance markets.
- Actively promoting RMS consulting services, identifying and cultivating new markets and clientele.
- Successfully managing a team of Consultants and Senior Consultants, ensuring the delivery of top-tier services and expertise to clients.

Website www.rms.com

02/1996 – 03/1998 Menlo Park, California, United States

SENIOR CONSULTANT, CONSULTANT ANALYTICAL SERVICES GROUP RISK MANAGEMENT SOLUTIONS, INC. (MOODY'S RMS)

Specialised in conducting comprehensive assessments of insurance and reinsurance portfolios, focusing on natural catastrophe risk analyses and optimisation strategies. Proficiently handled data assessment and manipulation, leveraging this expertise to derive actionable insights.

Accumulated substantial experience in the development of sophisticated catastrophe models, enhancing the precision and depth of risk evaluations.

Key responsibilities included:

- Performing in-depth analyses to assess natural catastrophe risks within insurance and reinsurance portfolios.
- Utilizing advanced data assessment and manipulation techniques to extract meaningful insights crucial for strategic decision-making.
- Demonstrating expertise in developing intricate catastrophe models to accurately predict and manage risks.
- Crafting insightful reports and delivering impactful presentations to clients, translating complex analyses into actionable strategies.
- Performed insurance and reinsurance portfolio assessment natural catastrophe risks analyses and portfolio optimisation analyses.
- Performed data assessment and data manipulation.
- Gained extensive experience in developing catastrophe models.
- Developed reports and presentations to clients.

10/1993 – 02/1996 Palo Alto, California, United States

RESEARCH VISITING GRADUATE DEPARTMENT OF ECONOMICS, STANFORD UNIVERSITY

Contributed to two pivotal research projects:

1. US Consumer Expenditure Project

Collaborated with Professors Orazio Attanasio and Frank Wolak on a comprehensive study analysing US consumer expenditure trends. Gathered, organised, and meticulously analysed extensive datasets spanning from 1980 to 1992. Conducted statistical and econometric analyses, unveiling critical insights into consumer spending behaviours based on the collected data.

1. Comparative Study of Worker-Owned and Capitalist Enterprises in Italy

Teamed up with Professor John Pencavel to investigate Italian cooperative sectors' dynamics from 1980 to 1992, sourcing data from the renowned Italian cooperative enterprise Unipol in Bologna. Employed regression and time series analyses to discern specific trends and validate hypotheses concerning labor market indices such as wages and employment turnover. Conducted comparative assessments between cooperative and traditional enterprise datasets, exploring adjustments in labor inputs, investment strategies, profitability, and efficiency.

Recipient of Research Activity Abroad scholarship from University of Bologna, showcasing dedication and excellence in academic pursuits.

● EDUCATION AND TRAINING

2019 – 2020 Bologna, Italy

ATTENDING LAUREATE PHD PROGRAMME: FUTURE EARTH, CLIMATE CHANGE AND SOCIETAL CHALLENGES

University of Bologna

The primary thematic courses encompassed:

- The Earth System
- Impacts, adaptation, and vulnerability
- Technological innovations for a carbonised society
- Socio-economic and legal studies for mitigating climate change
- Statistics, Social Sciences, Sociology, and Economic Law
- Management

Participated actively in these thematic courses, assimilating comprehensive knowledge across diverse disciplines crucial for addressing the multifaceted challenges posed by climate change.

Augmented expertise through participation in a specialised course on High-Performance Computing and Big Data at CINECA. This course enhanced proficiency in handling large-scale data and advanced computational techniques.

Website <https://phd.unibo.it/future-earth-climate-change-societal-challenges/en>

10/1994 – 06/1995 Milan, Italy

MASTER OF SCIENCE IN ECONOMICS (MEC) Bocconi University

Attained a Master's degree in Economics from Bocconi University, specialising in a diverse range of fundamental subjects:

- Statistics
- Econometrics
- Time Series Analysis
- Advanced Mathematics, including Dynamic Optimisation and Optimal Control techniques
- Advanced Microeconomics and Macroeconomics
- International Monetary Economics
- Finance

This comprehensive curriculum equipped me with a solid foundation in both theoretical and applied aspects of Economics, encompassing statistical methodologies, mathematical modelling, and diverse economic theories essential for analysing complex economic systems and scenarios.

Recipient of a Scholarship at Bocconi University in 1994, showcasing dedication and excellence in academic pursuits.

09/1992 – 06/1993 Santa Barbara, California, United States

ATTENDED MASTER PROGRAMME IN ECONOMICS AND FINANCE University of California Santa Barbara (UCSB)

Enrolled in a distinguished Master's program in Economics and Finance at UCSB, where I engaged in an intensive curriculum comprising essential subjects:

- Theory of Finance
- Economics Decisions
- Optimisation/Comparative Statistics
- Microeconomic Theory
- Mathematics for Economists

The program at UCSB contributed significantly to honing my expertise in economic and financial principles, equipping me with robust analytical skills and a profound understanding of theoretical frameworks in these domains.

Recipient of Education Abroad Program Scholarship from University of California

1992 Bologna, Italy

LAUREA IN ECONOMIA E COMMERCIO University of Bologna

Advisor, Professor Marco Onado, Economics of Financial Intermediaries.

Relevant course-work: Mathematics for Economists (Differential Equations, Statistics, Optimisation); Financial Mathematics; Applied Economics - Econometrics; Theory of Finance.

Final grade 110/110 | **Thesis** Private Pension System and Financial Markets

● LANGUAGE SKILLS

Mother tongue(s): **ITALIAN**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	C2	C2	C2	C2	C2
FRENCH	B2	B2	B2	B2	B2
SPANISH	B1	B1	B1	B1	B1

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user

DIGITAL SKILLS

Microsoft office(WordExcel Powerpoint Outlook) | Sistemi Operativi MAC-OS Windows linux | Basic programming (R) | Basic knowledge in programming in C++ | Agile Project Management - Scrum | Stata | Basics in SAS

ADDITIONAL INFORMATION

SOFT SKILLS

Organisational

- **Project Management Expertise:**
Proficient in spearheading project development, crafting schedules, and orchestrating team activities within allocated budgets. Demonstrated capability in meticulous planning to ensure project success and timely delivery.
- **Problem Diagnosis and Creative Problem-Solving:**
Adept at swiftly identifying critical factors in complex scenarios and employing innovative and practical solutions. Known for employing rigorous logic and methodical approaches to efficiently tackle challenging problems.
- **Customer-Centric Approach:**
Meeting and surpassing the expectations of both internal and external customers. Prioritising firsthand customer insights to enhance analyses and refine models, ensuring they align closely with customer needs and expectations.

Communication

- **Communication and Interpersonal Expertise:**
Proficient in collaborating within multidisciplinary environments, effectively engaging with external partners possessing diverse backgrounds and competencies. Known for building trust and earning respect through adept communication and collaboration skills.
- **Dissemination and Presentation Skills:**
Accomplished in presenting projects, analysis results, and models to potential markets and customers. Proficient in delivering engaging presentations to diverse audiences, showcasing complex information in an accessible manner.
- **University Lecturing Experience**
Experienced university lecturer adept at imparting knowledge and engaging students effectively. Skilled in delivering lectures and facilitating discussions in a manner that fosters learning and understanding among students from varied backgrounds.

Stakeholder Engagement

- Successfully cultivated and managed strategic alliances with prominent European financial intermediaries, including esteemed investment banks, consulting firms, international insurance and reinsurance companies, and insurance brokers such as Munich Re, Zurich Re, SCOR Re, Generali Assicurazioni, Lloyd's Syndicates, and Aon.
- Acted as a key liaison and representative for the organisation, fostering productive relationships and effectively communicating our objectives and offerings. Collaborated closely with these stakeholders, leveraging extensive industry knowledge and a nuanced understanding of their needs to facilitate mutually beneficial partnerships.

EDUCATION AND ENGAGEMENT INITIATIVES

09/10/2020 – 10/10/2020

UNESCO Oceanthon 2020 - Project: MaRASST (Marine Risk Assessment and Shared Solution Tool)

Participated in Oceanthon 2020, a fully digital hackathon focused on addressing the challenges aligned with tangible outcomes of the Ocean Decade.

Contributed to the development of the innovative project MaRASST - Marine Risk Assessment and Shared Solution Tool, within a team setting, including the creation of scalable application prototypes using leading-edge technologies. Played a pivotal role in proposing solutions that emphasised effective communication strategies, stakeholder engagement, and behavioural change, illustrating the societal benefits of applying scientific advancements.

MaRASST is as a high-resolution hazard mapping tool, effectively identifying risks inherent in the marine environment along the Italian coastline. It successfully integrates top-tier data sources with invaluable input from both the scientific community and the general public, demonstrating a commitment to enhancing coastal risk assessment through collaboration and innovation.

MaRASST secured a third-place ranking by the jury.

Link <https://www.youtube.com/watch?v=aOXTztrNBVA&t=7s>

27/09/2020 – 08/10/2020

Summer School: Tools and Strategies for Strengthening Resilience of Cultural Heritage in Climate Change

Participated in a Summer School program and obtained a Certificate of Attendance, covering comprehensive topics related to Cultural Heritage Protection:

- Understanding the Importance of Cultural Heritage Protection in the 21st Century
- Overview of the Italian Model for Cultural Property Protection during Natural Disasters
- Designing Cultural Heritage Protection Strategies: Threat Identification and Vulnerability Assessment
- Assessing Risks to Cultural Heritage due to Climate Impact and the Role of Satellite Observations
- Leveraging Copernicus for Safeguarding At-Risk Cultural and Natural Heritage
- Exploring Vulnerability and Resilience Building for Cultural Heritage
- Study of Building Materials for Cultural Heritage: Characterisation, Damage, and Protection Techniques
- Risk Mapping Strategies for Cultural Heritage exposed to Climate Extremes
- Management of At-Risk Cultural Heritage in Evolving Environments
- Hands-on Training in WebGIS Tool for Practical Risk Mapping

25/06/2019

Seminar: "Catastrophe Modelling and Resilience" at Department of Civil, Chemical, Environmental, and Materials Engineering, University of Bologna

Organised and led the seminar aimed at heightening practitioners' awareness regarding the risks associated with natural disasters. The seminar elucidated the utilisation of natural catastrophe risk models, derived from historical data and cutting-edge scientific research. Demonstrated the pivotal role of these models in strategising and executing precise preventive measures, focusing on both physical protection (physical resilience) and insurance coverage (financial resilience).

Link <https://magazine.unibo.it/calendario/2019/catastrophe-modelling/seminario-on-risk.pdf>

07/2019

Seminar: EPICentre Encounters: Recent Advances and Perspectives in Multi-Hazard Risk and Resilience, University College London (UCL)

Attended seminar at University College London (UCL).

Link <https://www.ucl.ac.uk/civil-environmental-geomatic-engineering/events/2019/jul/epicentre-encounters-recent-advances-and-perspectives-multi-hazard-risk>

04/2018

Multidisciplinary Approaches to Risk Management, University of Bologna

Attended a series of seminars addressed mainly to PhD candidates to discuss how risk is interpreted and managed in different fields of study and research

<https://phd.unibo.it/sehm2/en/agenda/multidisciplinary-approaches-to-risk-management>

03/03/2017 – 08/04/2017

Training Course P.A.S. 1st Level Instrumental Enrichment Program FEUERSTEIN METHOD

Successfully completed the PAS 1st Level course at the MIUR-accredited Mediated Learning Center. This program is founded on the Theory of Structural Cognitive Modifiability by Prof. R. Feuerstein. It emphasises the reactivation of learning processes at any age, fostering cognitive potential and unveiling latent resources within individuals.

01/2011 – 06/2011

Project Development and Innovation Strategy in Common Goods Governance

Led a Project on Common Goods in collaboration with Eco & Eco consulting company: "Governance of Commons Goods for the Italian Market".

This initiative involved developing a model aimed at activating private financing channels for projects associated with common goods. The model's framework was constructed through an extensive survey of notable international experiences involving private financing of common goods.

Conducted comprehensive analyses and comparisons of these cases, enabling the identification of recurring elements, assessment of associated risks, and adaptation of individual projects to suit local needs effectively.

Recognised with an award from an EU tender for innovative technology research projects (Spinner 2013), highlighting contributions to fostering innovation and research excellence.

Bologna , 17/11/2023

A handwritten signature in black ink, appearing to read 'Cealio' followed by a stylized flourish.