

## Short Curriculum vitae - CHIARA BERTOLIN

Department of Mechanical and Industrial Engineering (MTP), Norwegian University of Science and Technology (NTNU), Norway

Orcid ID: <https://orcid.org/0000-0002-0684-8980>

WoS ResearcherID: I-5874-2012 Scopus Author ID: 25823678000

Google scholar: <https://scholar.google.it/citations?user=IRI4np0AAAAJ&hl=it&oi=ao>

### RESEARCH INTERESTS

Design, implementation and Analysis of tests; structural integrity/ health monitoring campaign in real environment using non-destructive techniques. Environmental studies applied to assess existing conditions and damage appearance (e.g. location and severity) in products of the built environment. Statistical data analysis and data feature extraction in Atmospheric Science and Historic Climatology aimed to assess Climate Change effects.

### HIGHER EDUCATION

**2010** Phd in Astronomy, Department of Physics and Astronomy, University of Padua, Italy.

**2005** 5 years Master Degree in Astronomy (equivalent Master Degree in Physics for the Italian Law [D.M. 19.7.1996 in official gazette n. 226, the 26.9.1996], University of Padova (Italy), 105/110

### ACADEMIC QUALIFICATIONS

**2020 Italian National Academic Qualification** (Abilitazione Scientifica Nazionale - ASN) in 02/D1 Applied Physics, Didactic and History of Physics

**2020 Italian National Academic Qualification** (Abilitazione Scientifica Nazionale - ASN) in 04/A4 Geophysics

**PEDUP 2018** Norwegian University of Science and Technology NTNU's Educational Program for New Academic Staff

### CURRENT POSITION

**Aug 2019 - Present** **Associate Professor - Onsager Fellow Research Excellence Program and Outstanding Academic Fellows Program** - in structural health monitoring and non-destructive techniques, Department of Industrial and Mechanical Engineering MTP-NTNU, Trondheim, Norway. Project Coordinator and Principal Investigator of the SyMBoL and ESA-ANATOLIA Projects.

### PREVIOUS POSITIONS

**Jan 2016 – Jul 2019** **Associate Professor - Onsager Fellow** in Zero Emission Refurbishment of the Built Environment, Department of Architecture and Technology, NTNU, Trondheim, Norway. Responsible of the microclimatic measurement Laboratory for the MSc on Sustainable Architecture program.

**Sep 2014 – Dec 2015** **Postdoc Research Fellow**, Italian National Research Council - Institute of Atmospheric Sciences and Climate (CNR – ISAC), Padova (Italy)

**Sep 2011 – Aug 2014** **Fixed – term Researcher** in the framework of the EU project: *Climate for Culture*, CNR – ISAC, Padova (Italy)

**Jan 2010 – Aug 2011** **Research Fellow** in the framework of the EU project: *Climate for Culture*, CNR – ISAC, Padova (Italy)

**Nov 2006 – Dec 2009** **Research Fellow** during the PhD in the framework of the EU projects: *Millennium and Sensorgan*, CNR – ISAC, Padova (Italy)

**Apr 2006 – Jul 2006** **Research Fellow**, Sky Quality Group, Instituto de Astrofísica de Canarias (IAC), Tenerife, Spain

### FELLOWSHIPS AND AWARDS

**2020 – ongoing** Awarded of the role of reviewer in the IPCC Working Group I - 6th Assessment report

**2019 – ongoing** Awarded of the Outstanding Academic Fellow within the NTNU Res. Excellence Program.

**2019 - ongoing** Awarded of the role of contributing author in the IPCC Working Group I - 6th Assessment report

**Jul - Aug 2017** Visitor Professor, Instituto Pirenaico de Ecología (IPE-CSIC), Zaragoza, Spain.

- Oct 2016 - 2017** Adjunct Professor, Accademia Belle Arti, Verona, Italy
- 2016 – ongoing** Awarded of the Onsager Fellowship – Tenure Track Professorship, NTNU Res. Excellence Program.
- 2016** Patent – Invention of Portable electronic psychrometer for automatic (n° 202016000051842)
- Oct 2015 - 2016** Adjunct Professor, Accademia Belle Arti, Verona, Italy
- Sep - Oct 2014** Visitor Scientist, Laserlab Europe Transnational Access Programme, Holography lab at the Institute of Electronic Structure and Laser-Foundation for Research and Technology-Hellas, Heraklio, Greece.
- Oct 2011** Master-Doctorate course Grant, European University Centre for Cultural Heritage, Council of Europe's EUR-OPA Major Hazards Agreement, Ravello, Italy.
- Sep 2009 - Jan 2011** Letter Contract (n. 10-07 FR 3240237849) and Research Grant (n. 09-04 FR 3240216228) from the United Nations Educational, Scientific and Cultural Organization **UNESCO**

### RESEARCH GROUP AND SUPERVISIONS OF PhD STUDENTS AND POST-DOCS

I am currently leading a group of 2 Researchers and 1 visiting researcher, 1 Postdoc, 2 PhD students and 1 Erasmus Student as main supervisor.

Candidate	Main Supervisor	Co-supervisor
<b>Doctoral Defence Examination Committee</b>	Giuseppe Fragapane (2021) Yuegun Fu (2021) Michaela Ibrion (2021) Klas Solberg (2021) Esra Fugen Pasaogluglari (2021, Portugal) Mirco Peron (2020) Javad Razavi (2019) Johan Mattsson (2017)	---
<b>Mid-term PhD Examination Committee</b>	Qingbo Wang (2021) Marco Maurizi (2021) Emanuele Solfiti (2021) Aleksander Sendrowicz (2021)	
<b>Master Degree</b>	Nisia Georg Aarnes (2021) External Sensor Kristel Reseke (2019) Urška Belsak (2018) Claire McConnell (2017)	Giulia Boccacci (2021) Beatrice Bartolucci (2020) Giulia Grottesi (2020)
<b>Postdoc</b>	America Califano (2021-2023) Elena Sesana (2021, visiting Postdoc) Lavinia De Ferri (2018- 2020)	---
<b>Researcher</b>	Stefano Cavazzani (2021-2024) Poorya Karvan (2020-2021)	
<b>Research Assistant</b>	Marta Braconi (2018-2019)	---
<b>PhD student</b>	Ozge Ogut (2020-2023) Ashley Freeman (2018-2021) Arian Loli (2016-2020)	Elena Verticchio (2018-2021) Elena Sesana (2016-2019, 2017- visiting PhD) Alessia Caratelli (2011-2014)
<b>Master Student</b>	Kristel Reseke (2019) Urška Belsak (2018) Claire McConnell (2017)	Isabella Bighignoli (2013) Anna Vergottini (2012)
<b>Bachelor Student</b>	----	Jessica Giovanni (2012) Margherita Formisano (2012) Chiara Amore (2009) Arianna Bergonzini (2009)
<b>Erasmus Student</b>	Giulia Boccacci (2021) Andrea De Rosa (2020) Beatrice Bartolucci (2020) Giulia Grottesi (2018)	

### TEACHING ACTIVITIES

- Academic Year 2020-2021 – Spring Semester** Master in Mechanical Engineering – Course: TMM4167/2020  
“Non-destructive techniques and structural health monitoring” Responsible of the Course of 7.5 ECTS
- Academic Year 2018-2019 – Spring Semester** MSc in Sustainable Architecture – Emission as Design Drivers – Design (AAR4546) and Theory (AAR4817) courses. Module on Cultural Heritage (ca. 180 hours) in 15 ECTS.
- Academic Year 2017-2018 – Spring Semester** MSc in Sustainable Architecture – Emission as Design Drivers – Design (AAR4546) and Theory (AAR4817) courses. Module on Cultural Heritage (ca. 180 hours) in 15 ECTS
- Academic Year 2017-2019 – Intensive programmes for higher education learners: “Adaptive reuse of historical building heritage in Lofoten and Aeolian Islands”** Trondheim, Lofoten, Norway and Catania and Filicudi island, Italy. Learning/Teaching/Training activities of VVITA Project, an Erasmus+ Strategic Partnerships for higher education (KA2) between UAUIM, UNICT & NTNU. (3.75 credits x 2).
- Academic Year 2016-2017 – Spring Semester** MSc in Sustainable Architecture – Emission as Design Drivers – Design (AAR4546) and Theory (AAR4817) courses. Module on Cultural Heritage (ca. 180 hours) in 15 ECTS
- Academic Year 2015-2016 – Spring Semester** MSc in Sustainable Architecture – Emission as Design Drivers – Design (AAR4546) and Theory (AAR4817) courses. Module on Cultural Heritage (ca. 70 hours) in 15 ECTS
- 2015-2017 Adjunct Professor** – Master Course Coordinator: “Physics for Restoration” (prot. 2299/E2 and prot. 3614/E2 and 3615/F7), Accademia Belle Arti, Verona, Italy
- Guest Lecturer in Sustainable Facilities management (AAR4821/ 2017), and buildings documentation and analysis (AAR8140/ 2017) courses, Architecture Conservation (AAR4551 / 2017). Lecturer in Intensive programs for higher education learners devoted to cultural heritage protection (ENVironment-MATerial Interaction - ENVIMAT)
- 2010 – 2015** CNR-ISAC, Padua, teaching assistant in Physics applied to Cultural Heritage conservation, Theory and practice in the field of restoration of cultural heritage, Technician for the architectural survey of historic buildings (teaching 40 hours/year and tutorial teaching 30 hours/year).

### ORGANIZATION OF SCIENTIFIC MEETINGS

Period	Int. Scientific Committees	Responsibility
2018-2021	SyMBoL kick off meeting & International Final Conference	Organizer and Member of the international Scientific Committee
2020-today	ICUR20 & ICUR22 – 2nd International Conference on Urban Risk, Lisbon, Portugal	Member of the international Scientific Committee
2019-2021	ESIAM19 & ESIAM21- European Conference Structural Integrity of Additively Manufactured Materials	Member of the international Scientific Committee
2018-2019	VVITA International Workshop: Re-use of rural heritage, Trondheim/Lofoten, Norway & Catania, Aeolian islands	Organizer
2017	conference “Taking Norway to the Top of the EU science: the Italian support”, Trondheim, Norway	Organizer in cooperation with the Italian Embassy in Norway
2007-2015	Scientific Meeting of Millennium and Climate for Culture EU project and for the CEN/TC 346 – WG7 (2007-2015) Course on “Improvement of energy performance in Buildings” and PhD Course on “Microclimate monitoring” held in Venice in Feb 2014 and in Padova in Oct 2010	Organizer

### COMMISSIONS OF TRUST

- 2019 – ongoing Member of the Italian Association of Science of the Atmosphere and Meteorology (AISAM)
- 2019 – ongoing Member of the European structural integrity society (ESIS)
- 2019 – ongoing Member of the Italian Group of Fracture – Gruppo Italiano Frattura (IGF)
- 2017 – ongoing Consultant of the Norwegian Institute for Cultural Heritage Research (NIKU) and of the Directorate of Cultural Heritage, Oslo, Norway
- 2015 – 2018 Consultant of the Diocesan Museum and Galleries of Tiepolo, Udine, Italy

- 2012 – ongoing European Committee for Standardization CEN - Technical Committee 346 Conservation of Cultural heritage. Expert in Working Group WG7: Specifying and measuring Indoor/Outdoor Climate and WG14: Monitoring of cultural deposit. Italian delegation (2012-2015); Norwegian deleg (2016-ongoing)
- 2012-2015 Consultant of the Venice Civic Museums Foundation MUVE
- 2011 – 2015 National Standardization Body of Italy, UNI – Normal. Expert - Scientific Committee UNI Environment" of the Cultural Heritage Commission – NORMAL

### ACTIVITY AS GUEST EDITOR AND REVIEWER

- 2021 International Project evaluator for PRIN- Research Projects of National Relevance and Expert Evaluator for the Research Quality Assessment on Cultural Heritage Preservation ANVUR 2015-2019 - Italian Ministry of University and Research MIUR
- 2020-2021 Invited member in the Review panel of the Working Group II in the IPCC 6th Assessment Report
- 2020 - ongoing Guest Editor with Dr Poorya Karvan - Special Issue "Sustainable Management of Heritage Building in a Long-term Perspective", Material Design Processing Communication, Wiley
- 2020 - ongoing Member of the Editorial Board of the Journal *Natural Resources Informatics* EISSN aaaa-3590
- 2020 - ongoing Guest Editor with Assistant Prof. Xavier Romao (univ. of Porto) - Special Issue "Risk protection to cultural heritage and historical centres", Intern. Journal of Disaster Risk Reduction, Elsevier
- 2019 – ongoing International Project evaluator for Raw Ideas for Materials Projects, University of Padua and the European Institute of Innovation and Technology, the German-Israeli Foundation for Scientific Research and Development, and for the Onisilos projects of the University of Cyprus.
- 2019 Guest Editor with Prof. Jim Perry (univ. of Minnesota) - Special Issue "Conservation of World Heritage under the Changing Climate", Climate – MDPI publisher
- 2018 Guest Editor - Special Issue "Preservation of Cultural Heritage and Resources Threatened by Climate Change", Geosciences – MDPI publisher, and Editor of the paperbook with the same title.
- 2017 - ongoing Member of the Editorial Board of the Journal Climate ISSN 2225-154
- 2015 – ongoing Member in the Review panel of more than 20 journals in the field of climate change, climatology, microclimate, heritage science, preventive conservation (including Bulletin of America Society).

### ON-GOING PROJECTS AND GRANTS AND FORMER EU PROJECT PARTICIPATION:

Period	Project	Project Number
2021-2023	Efficacy - Energy efficiency building and Circular Economy for thermal insulating solutions	EEA Grant
2021-2023	Cultural Heritage Protection in Climate Change online	Erasmus+
2021-2024	ANATOLIA – Atmospheric Monitoring to assess the availability of Optical links through the atmosphere – ARTES SL005	ScyLight005 ESA Open Invitation to Tender AO9123 Reference Nr. 17.1TT.74
2020-2023	GRIEG – Model of paintings with craquelure patterns for evidence-based environmental control in museums	PL-Basic Research-0014
2020-2023	DRO500 – Drought Variability in the Iberian Peninsula in the last 500 year, a methodological approach	SPID201900X108589IV0
2020-2022	International Project: Smart Governance: New methods for climate control and AIs (Spara och Bevara)	STEM 2019-023837
2019-2022	EU Horizon 2020 Project: SIRAMM Eastern European twinning on Structural Integrity and Reliability of Advanced Materials obtained	H2020-WIDESPREAD-2018-03-857124
2018-2021	Fripro-Frinatex Young Research Talent Intern. Project: Sustainable Management of Heritage Buildings in a long-term perspective (Coordinator; 800 kEur)	Project no.:274749
2017-2019	Erasmus+ Project: VVITA	2017-1-RO01-KA203-037314
2016-2026	International Project: Environmental monitoring of the impact of climate change on protected buildings	SAKSNR 15/02185

2014-2016	Agreement on Scientific Cooperation CNR-ISAC and PAS concerning "Transport and deposition of particulate matter in historic building"	CNR-ISAC_PAS_2014_1
2009-2014	EU Project: Climate for Culture	Contract no.: 226973
2007-2008	EU Project: Sensorgan	Contract no. 022695
2007-2010	EU Project: Millennium European Climate	Contract no.: 017008-2

### OVERVIEW OF GRANTS AS SCIENTIFIC ADVISOR (TOT 100 KEur), PATENTS AND MOBILITY

#### 2009-2026 Short term project contract as scientific advisor/researcher for international institutions

**preserving Cultural Heritage:** NIKU (Advisor contract); UNESCO (2 contracts); Riksantikvaren (Pilot Project contract); Directorate for Cultural Heritage, Italy; Network of Civic Museums in Venice-MUVE, Venice, Italy (2 contracts); Diocesan museum and Gallery of Tiepolo, Udine, Italy (2 contacts).

**2015-2017 Patent** - Portable electronic Psychrometer for the automatic mapping of temperature, relative humidity, Dew point and vapor content of the air (No 202016000051842). Inventors: D. Del Curto, L. Valisi, A. Luciani, D. Camuffo, A. Paravicini and C. Bertolin

**2006-2018: Mobility** - 2 short term stay as visiting professor at Instituto Pirenaico de Ecologia (IPE-CSIC) in Zaragoza, Spain and researcher Laserlab Europe Transnational Access Programme, at the Holography lab IESL-FORTH

**April – July 2006:** Research Fellow, Sky Quality Group, Instituto de Astrofisica de Canarias (IAC), Tenerife, Spain

### PUBLICATIONS AND INVITED TALKS:

To date, I am the author of **66 papers** in peer reviewed international journals (included 1 published on **Nature**), **1 monograph**, **3 books as Guest Editor**, **13 book chapters**, **35 proceeding papers** and **61 among international abstracts** presented at international conferences and several reports (**total of 179 international research products**). To date I have an **H-index of 18 with more than 1350 citations** to my work that are increasing linearly. To date I presented at more than 50 scientific International meetings, congresses and workshop (mainly by invitation).

Norway, 30.04.2021

My data can be used for the present application