

# Nuria Castell

 <https://orcid.org/0000-0002-2312-8168>

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## Websites & Social Links

NILU Employee Website (<https://www.nilu.no/ansatt/nuria-balaguer-castell/>)

Google Scholar (<https://scholar.google.com/citations?user=wq3IVC4AAAAJ&hl=en>)

## Other IDs

Scopus Author ID: 23017805100 (<http://www.scopus.com/inward/authorDetails.url?authorID=23017805100&partnerID=MN8TOARS>)

Loop profile: 927719 ([http://loop.frontiersin.org/people/927719/overview?referrer=orcid\\_profile](http://loop.frontiersin.org/people/927719/overview?referrer=orcid_profile))

## Biography

Núria Castell is a Senior Scientist at the Urban Environment and Industry Department of the Norwegian Institute for Air Research (NILU). With a PhD in atmospheric physics, her research interests combine air pollution, climate, citizen science and smart and sustainable cities, with an emphasis on novel air quality monitoring technologies, crowdsourced air quality observations, and modelling at urban and regional scales. She works on the uptake of low-cost sensor platforms for various applications, including spatial mapping, visualization, uncertainty analysis and personal exposure estimates. Nuria is also the chair of the European Citizen Science Association working group on air quality.

## Employment (2)

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### Norwegian Institute for Air Research: Kjeller, NO

2011-09-01 to present | Senior Scientist (INBY-Urban environment)

Employment

**Source:**Nuria Castell

### Fundación Centro de Estudios Ambientales del Mediterráneo: Paterna, Valenciana, ES

2000-09-01 to 2011-08-01 | Scientist

Employment

**Source:**Nuria Castell

## Education and qualifications (1)

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### University of Valencia: Valencia, ES

2008-01-01 to 2008-01-02 | PhD (Atmospheric Physics)

Education

**Source:**Nuria Castell

## Invited positions and distinctions (2)

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### Citizen Science Global Partnership: Berlin, DE

2023-07-01 to present | Co-chair (CoP Upscaling CS for Air Quality)

Invited position

**Source:**Nuria Castell

### ECSA European Citizen Science Association: Berlin, DE

2019-10-01 to present | Chair (WG Air Quality)

Invited position

**Source:**Nuria Castell

## Funding (15)

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### More4Nature - Empowering citizens in collaborative environmental compliance assurance via monitoring, reporting and action

European Commission (Brussels)

2024-01 to 2027-12|Grant

URL: <https://www.more4nature.eu/> (<https://www.more4nature.eu/>)

**Source:**Nuria Castell

### CitiObs - Enhancing Citizen Observatories for healthy, sustainable, resilient and inclusive cities

European Commission (Brussels)

2023-01 to 2026-12|Grant

URL: <https://citiobs.eu/> (<https://citiobs.eu/>)

**Source:**Nuria Castell

**SOCIO-BEE. Wearables and drones for Socio-Environmental Observations and Behavioural Change**

Horizon 2020 Framework Programme (Brussels)

2021-10 to 2024-09|Grant

URL: <https://socio-bee.eu/> (<https://socio-bee.eu/>)

**Source:**Nuria Castell

**URBANITY. Innovative sensor networks and citizen empowerment for sustainable mobility**

Norwegian Research Council (Oslo)

2021-09 to 2024-12|Grant

URL: <http://urbanity.nilu.no> (<http://urbanity.nilu.no>)

**Source:**Nuria Castell

**Co-Mobility. Co-designing inclusive mobility**

Polish Academy of Sciences (Warsaw)

2021-03 to 2024-04|Grant

URL: <https://comobility.edu.pl/en/homepage/> (<https://comobility.edu.pl/en/homepage/>)

**Source:**Nuria Castell

**GREENHEAT. Towards Collaborative Local Decarbonization**

Polish Academy of Sciences (Warsaw)

2021-02 to 2024-03|Grant

URL: <https://greenheat.kezo.pl/en/> (<https://greenheat.kezo.pl/en/>)

**Source:**Nuria Castell

**Airify. Air quality profiling using low-cost gas and particle sensors**

EEA Grants Innovation Norway-Romania (Oslo)

2020-09 to 2022-02|Grant

**Source:**Nuria Castell

**NordicPATH. Nordic participatory, healthy and people-centred cities**

NordForsk (Oslo)

2020-02 to 2023-03|Grant

URL: <http://nordicpath.nilu.no> (<http://nordicpath.nilu.no>)

**Source:**Nuria Castell

**Embodying Climate Change. Transdisciplinary Research on Urban Overheating**

EEA Grants Norway-Poland (Warsaw)

2020 to 2024|Grant

URL: <http://www.emclic.com/> (<http://www.emclic.com/>)**Source:**Nuria Castell**Virtual Air Pollution Experience**

EEA Grants/Norway Grants (Krakow)

2020 to 2022|Award

URL: <https://vape.edu.pl/> (<https://vape.edu.pl/>)**Source:**Nuria Castell**ACTION. Participatory science toolkit against pollution**

European Research Council (Brussels)

2019-02 to 2022-01|Grant

URL: <https://actionproject.eu/> (<https://actionproject.eu/>)**Source:**Nuria Castell**iFLINK. Innovative envioronmental sensor networks for municipalities**

Norwegian Research Council (Oslo)

2018-10 to 2021-11|Grant

URL: <https://iflink.nilu.no/en/home/> (<https://iflink.nilu.no/en/home/>)**Source:**Nuria Castell**GIRECON-CITY**

EEA Grants Norway-Spain (Madrid)

2014 to 2016|Grant

**Source:**Nuria Castell**Citi-Sense-MOB**

EU EMMIA (Brussels)

2013 to 2015|Grant

**Source:**Nuria Castell**CITI-SENSE**

EU FP7 (Brussels)

2012 to 2016|Grant

**Source:**Nuria Castell

**Works (41 of 41)****Citizen-operated low-cost sensors for estimating outdoor particulate matter infiltration**

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*Air Quality, Atmosphere & Health*

2025-07-04 | journal-article

DOI: 10.1007/s11869-025-01787-4

**Source:**Crossref**A scalable framework for harmonizing, standardization, and correcting crowd-sourced low-cost sensor PM2.5 data across Europe***Journal of Environmental Management*

2025-04 | journal-article

DOI: 10.1016/j.jenvman.2025.125100

**Source:**Crossref**Reassessing the role of urban green space in air pollution control***Proceedings of the National Academy of Sciences*

2024-02-06 | journal-article

DOI: 10.1073/pnas.2306200121

**Source:**Crossref**Multisensory Representation of Air Pollution in Virtual Reality: Lessons from Visual Representation**

2022 | book-chapter

DOI: 10.1007/978-3-031-11432-8\_24

**Source:**Crossref**Calibration of CO, NO2, and O3 Using Airify: A Low-Cost Sensor Cluster for Air Quality Monitoring***Sensors*

2021-11-29 | journal-article

DOI: 10.3390/s21237977

Part of ISSN: 1424-8220

**Source:**Nuria Castell

## **Tackling Data Quality When Using Low-Cost Air Quality Sensors in Citizen Science Projects**

*Frontiers in Environmental Science*

2021-10-12 | journal-article

DOI: 10.3389/fenvs.2021.733634

Part of ISSN: 2296-665X

**Source:**Nuria Castell

## **Assessment of Low-Cost Particulate Matter Sensor Systems against Optical and Gravimetric Methods in a Field Co-Location in Norway**

*Atmosphere*

2021-07-27 | journal-article

DOI: 10.3390/atmos12080961

Part of ISSN: 2073-4433

**Source:**Nuria Castell

## **Transformative Potential and Learning Outcomes of Air Quality Citizen Science Projects in High Schools Using Low-Cost Sensors**

*Atmosphere*

2021-06-08 | journal-article

DOI: 10.3390/atmos12060736

Part of ISSN: 2073-4433

**Source:**Nuria Castell

## **Implementing Citizen Science in Primary Schools: Engaging Young Children in Monitoring Air Pollution**

*Frontiers in Climate*

2021-03-24 | journal-article

DOI: 10.3389/fclim.2021.639128

Part of ISSN: 2624-9553

**Source:**Nuria Castell

## **Public Perception of Urban Air Quality Using Volunteered Geographic Information Services**

*Urban Planning*

2020-10-14 | journal-article

DOI: 10.17645/up.v5i4.3165

Part of ISSN: 2183-7635

**Source:**Nuria Castell

### **Air quality mitigation in European cities: Status and challenges ahead**

*Environment International*

2020-10 | journal-article

DOI: 10.1016/j.envint.2020.105907

Part of ISSN: 0160-4120

**Source:**Nuria Castell

### **On the robustness of field calibration for smart air quality monitors**

*Sensors and Actuators, B: Chemical*

2020 | journal-article

DOI: 10.1016/j.snb.2020.127869

EID: 2-s2.0-85079768824

**Source:**Nuria CastellviaScopus - Elsevier

### **Toward a unified terminology of processing levels for low-cost air-quality sensors**

*Environmental Science and Technology*

2019 | journal-article

DOI: 10.1021/acs.est.9b03950

EID: 2-s2.0-85070645384

**Source:**Nuria CastellviaScopus - Elsevier

### **Assessment of air quality microsensors versus reference methods:**

#### **The EuNetAir Joint Exercise – Part II**

*Atmospheric Environment*

2018-11 | journal-article

DOI: 10.1016/j.atmosenv.2018.08.028

Part of ISSN: 1352-2310

**Source:**Nuria Castell

### **Localized real-time information on outdoor air quality at kindergartens in Oslo, Norway using low-cost sensor nodes**

*Environmental Research*

2018-08 | journal-article

DOI: 10.1016/j.envres.2017.10.019

Part of ISSN: 0013-9351

**Source:**Nuria Castell

## **Assessing the Relocation Robustness of on Field Calibrations for Air Quality Monitoring Devices**

*Lecture Notes in Electrical Engineering*

2018 | book-chapter

DOI: 10.1007/978-3-319-66802-4\_38

Part of ISBN: 9783319668017

Part of ISBN: 9783319668024

Part of ISSN: 1876-1100

Part of ISSN: 1876-1119

**Source:**Nuria Castell

## **Mapping urban air quality in near real-time using observations from low-cost sensors and model information**

*Environment International*

2017-09 | journal-article

DOI: 10.1016/j.envint.2017.05.005

Part of ISSN: 0160-4120

**Source:**Nuria Castell

## **An evaluation tool kit of air quality micro-sensing units.**

*Apollo - University of Cambridge Repository*

2017-06-08 | journal-article

DOI: 10.17863/CAM.9573

**Source:**Nuria Castell

## **An evaluation tool kit of air quality micro-sensing units**

*Science of the Total Environment*

2017 | journal-article

DOI: 10.1016/j.scitotenv.2016.09.061

EID: 2-s2.0-84995814985

**Source:**Nuria CastellviaScopus - Elsevier

## **Can commercial low-cost sensor platforms contribute to air quality monitoring and exposure estimates?**

*Environment International*

2017 | journal-article

DOI: 10.1016/j.envint.2016.12.007

EID: 2-s2.0-85009423943

**Source:**Nuria CastellviaScopus - Elsevier

### **Is on field calibration strategy robust to relocation?**

*ISOEN 2017 - ISOCS/IEEE International Symposium on Olfaction and Electronic Nose, Proceedings*

2017 | conference-paper

DOI: 10.1109/ISOEN.2017.7968904

EID: 2-s2.0-85027241710

**Source:**Nuria Castell*via*Scopus - Elsevier

### **Wireless distributed environmental sensor networks for air pollution measurement-the promise and the current reality**

*Sensors (Switzerland)*

2017 | journal-article

DOI: 10.3390/s17102263

EID: 2-s2.0-85030686460

**Source:**Nuria Castell*via*Scopus - Elsevier

### **Assessment of air quality microsensors versus reference methods:**

#### **The EuNetAir joint exercise**

*Atmospheric Environment*

2016-12 | journal-article

DOI: 10.1016/j.atmosenv.2016.09.050

Part of ISSN: 1352-2310

**Source:**Nuria Castell

### **Black Carbon aerosol measurements and simulation in two cities in south-west Spain**

*Atmospheric Environment*

2016 | journal-article

DOI: 10.1016/j.atmosenv.2015.11.026

EID: 2-s2.0-84948845545

**Source:**Nuria Castell*via*Scopus - Elsevier

### **Modeling and evaluation of urban pollution events of atmospheric heavy metals from a large Cu-smelter**

*Science of the Total Environment*

2016 | journal-article

DOI: 10.1016/j.scitotenv.2015.08.117

EID: 2-s2.0-84940875749

**Source:**Nuria Castell*via*Scopus - Elsevier

**Towards crowd-sourced air quality and physical activity monitoring by a low-cost mobile platform**

*Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*

2016 | book

DOI: 10.1007/978-3-319-39601-9\_41

EID: 2-s2.0-84976647851

**Source:**Nuria Castell*via*Scopus - Elsevier

**Mobile technologies and services for environmental monitoring: The Citi-Sense-MOB approach**

*Urban Climate*

2015 | journal-article

DOI: 10.1016/j.uclim.2014.08.002

EID: 2-s2.0-84948386086

**Source:**Nuria Castell*via*Scopus - Elsevier

**Modelling atmospheric oxidation of 2-aminoethanol (MEA) emitted from post-combustion capture using WRF-Chem**

*Science of the Total Environment*

2015 | journal-article

DOI: 10.1016/j.scitotenv.2015.04.108

EID: 2-s2.0-84929501140

**Source:**Nuria Castell*via*Scopus - Elsevier

**The role of air quality modelling in particulate matter management in cities. Results from the air implementation pilot, Uloga modelovanja kvaliteta vazduha u upravljanju čvrstim česticama u gradovima. Rezultati projekta "air implementation pilot"**

*Chemical Industry and Chemical Engineering Quarterly*

2015 | journal-article

DOI: 10.2298/CICEQ140217036C

EID: 2-s2.0-84928946281

**Source:**Nuria Castell*via*Scopus - Elsevier

**Uncertainties in assessing the environmental impact of amine emissions from a CO<sub>2</sub> capture plant***Atmospheric Chemistry and Physics*

2014 | journal-article

DOI: 10.5194/acp-14-8533-2014

EID: 2-s2.0-84906273533

**Source:** Nuria Castell via Scopus - Elsevier**Measurements and simulation of speciated PM<sub>2.5</sub> in south-west Europe***Atmospheric Environment*

2013 | journal-article

DOI: 10.1016/j.atmosenv.2013.04.050

EID: 2-s2.0-84878256162

**Source:** Nuria Castell via Scopus - Elsevier**Size distribution and concentrations of heavy metals in atmospheric aerosols originating from industrial emissions as predicted by the HYSPLIT model***Atmospheric Environment*

2013 | journal-article

DOI: 10.1016/j.atmosenv.2013.02.013

EID: 2-s2.0-84874773631

**Source:** Nuria Castell via Scopus - Elsevier**Daily, seasonal and monthly variations in ozone levels recorded at the Turia river basin in Valencia (Eastern Spain)***Environmental Science and Pollution Research*

2012 | journal-article

DOI: 10.1007/s11356-012-0881-5

EID: 2-s2.0-84865540085

**Source:** Nuria Castell via Scopus - Elsevier

**Modeling and surface observations of arsenic dispersion from a large Cu-smelter in southwestern Europe**

*Atmospheric Environment*

2012 | journal-article

DOI: 10.1016/j.atmosenv.2011.12.014

EID: 2-s2.0-84856518065

**Source:**Nuria Castell*via*Scopus - Elsevier

**The use of experimental data and their uncertainty for assessing ozone photochemistry in the Eastern Iberian Peninsula**

*Chemosphere*

2012 | journal-article

DOI: 10.1016/j.chemosphere.2012.04.056

EID: 2-s2.0-84865050104

**Source:**Nuria Castell*via*Scopus - Elsevier

**Modeling PM10 originating from dust intrusions in the Southern Iberian Peninsula using HYSPLIT**

*Weather and Forecasting*

2011 | journal-article

DOI: 10.1175/WAF-D-10-05044.1

EID: 2-s2.0-79956335690

**Source:**Nuria Castell*via*Scopus - Elsevier

**Simulation and Evaluation of Control Strategies for Ozone Reduction in a Complex Terrain in Southwestern Spain**

*Environmental Modeling and Assessment*

2011 | journal-article

DOI: 10.1007/s10666-011-9265-3

EID: 2-s2.0-80255123842

**Source:**Nuria Castell*via*Scopus - Elsevier

**A modeling study of the impact of a power plant on ground-level ozone in relation to its location: Southwestern Spain as a case study**

*Water, Air, and Soil Pollution*

2010 | journal-article

DOI: 10.1007/s11270-009-0181-y

EID: 2-s2.0-77952242825

**Source:**Nuria Castell*via*Scopus - Elsevier

**Photochemical model evaluation of the surface ozone impact of a power plant in a heavily industrialized area of southwestern Spain**

*Journal of Environmental Management*

2010 | journal-article

DOI: 10.1016/j.jenvman.2009.09.030

EID: 2-s2.0-72149090107

**Source:**Nuria Castell*via*Scopus - Elsevier

**Evaluation of the use of photochemical indicators to assess ozone-NOx-VOC sensitivity in the Southwestern Iberian Peninsula**

*Journal of Atmospheric Chemistry*

2009 | journal-article

DOI: 10.1007/s10874-010-9158-x

EID: 2-s2.0-77953816425

**Source:**Nuria Castell*via*Scopus - Elsevier

**Analysis of tropospheric ozone concentration on a Western Mediterranean site: Castellon (Spain)**

*Environmental Monitoring and Assessment*

2008 | journal-article

DOI: 10.1007/s10661-007-9723-1

EID: 2-s2.0-36549049424

**Source:**Nuria Castell*via*Scopus - Elsevier

*Record last modified Jul 4, 2025, 11:29:33 AM*