## Personal information


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|---|---|
| First name, Surname | Gabriele Lobaccaro |
| Date of birth | 09 June 1983 |
| Nationality | Italian |
| Researcher unique identifiers | ORCiD: 0000-0003-1603-3520<br>ResearcherID: O-4697-2017<br>Scopus Author ID: 55979502000 |
| URL for personal website | NTNU profile – Research Gate profile |


## Education

| Year | Faculty/department - University/institution - Country |
|---|---|
| 2013 | **PhD in Building Engineering**<br>Faculty of Building Engineer and Architecture; Dept. of Architecture, Built environment and Construction engineering (ABC); Politecnico di Milano (POLIMI), Italy/ Faculty of Built Environment, University of New South Wales (UNSW), Sydney, Australia |
| 2008 | **MSc in Building Engineering and Architecture**<br>Faculty of Building Engineer and Architecture; Dept. ABC; POLIMI |

## Positions - current and previous

| Year | Job title – Employer - Country |
|---|---|
| 2024 → | **Professor**<br>Faculty of Engineering (IV); Dept. of Civil and Environmental Engineering (IBM)<br>Norwegian University of Science and Technology, NTNU, Trondheim, Norway |
| 2020-2024 | **Associate Professor**<br>NTNU-IBM |
| 2017-2020 | **Researcher**<br>Faculty of Architecture and Design; Dept. of Architecture and Technology; NTNU |
| 2013-2017 | **Postdoctoral Research Fellow in Smart Sustainable Cities**<br>Faculty of Architecture and Design; Dept. of Architecture and Planning; NTNU |
| 2010-2013 | **PhD Candidate in Building Engineering**<br>Faculty of Building Engineer and Architecture; Dept. of Architecture, Built environment and Construction engineering; POLIMI/ Faculty of Built Environment, UNSW |

## Supervision of students, Ph.Ds. and Postdoctoral Research Fellow

| | University/institution - Country |
|---|---|
| BSc/MSc students | More than **40 Master students** (16) MSc in Sustainable Architecture, (9BSc/9) Civil and Env. Eng. at NTNU**;** (2) MSc Faculty of Building Eng. and Arch.; Dept. ABC; POLIMI. **15 Master Students and trainees within the EU programme ERASMUS+** (1) Politecnico di Bari (2) Universitat Politècnica de València (2) Università di Perugia (2) Università Politecnica delle Marche (2) POLIMI; (1) Università degli Studi di Padova (2) Politecnico di Torino; (1) Claude Bernard University Lyon 1, (1) INES-LOCIE |
| Ph.Ds. | **3 Ph.Ds. as Main supervisor** (ongoing) NTNU-IBM and **8 Ph.Ds.** as **Co-supervisor** (6) NTNU; (1) EURAC, Institute for Renewable Energy, Bolzano, Italy; (1) CIRIAF/Univ. degli Studi di Perugia, Italy |
| Postdocs | **3** NTNU-IBM: 1 ongoing; **1** has been **promoted** to **Researcher** and **1** to Ass. Professor position. |

## Project management experience

| Year | Project owner - Project - Role – Funder – Administrative roles |
|---|---|
| 2024 → | **Coordinator of Activity A3 – BIPV in our society**<br>PVPS Task 15 - Enabling Framework for the Development of BIPV |
| 2021 → | **Project manager** of NFR FRIPRO FRINATEK project HELIOS (see details below) |
| 2021-2025 | **Coordinator of the Building Technology Research Group** at IBM, NTNU. |
| 2021-2024 | IEA SHC Task 63 «Solar Neighborhood Planning»<br>**Leader of Subtask D "Case Studies"** |
| 2021 → | **Member of the PhD Board** of the Faculty of Engineering at NTNU |
| 2021 → | **Member of the management group of the Gemini-Solar Cells** |
| 2021 → | **Member of the management group of the NTNU Energy Team Solar** |
| 2013-2017 | IEA SHC Task 51 «Solar Energy in Urban Planning»<br>**Leader of Subtask C "Case Studies and Action Research"** |

## Career breaks

| Year | Reason |
|---|---|
| 2017-2022 | **Paternity Leave**: 25 equivalent calendar days (ECD) in 2017, 57 ECD in 2018, 53 ECD in 2020, 55 ECD in 2021, 40 ECD in 2022 |

## Other relevant professional experiences

### Commissions of trust

| Year | Role |
|---|---|
| 2023 → | **Executive board member of Research project - KSP SafeBESS -**Technology and building design for safe operation of battery energy storage systems |
| 2021 → | **Executive board member of FRIC - Fire Research and Innovation Centre** |
| 2016 → | **Scientific committee member:** SBE 2025, CISBAT 2023 and 2025, NSB2023, Eurosun2022, IBPSA BuildSim Nordic 2020 conference; 10th IAQVEC 2019 – International conference on indoor air quality, ventilation and energy in buildings; SWC 2017/2019/2021/2023/2024 - ISES Solar World Congress - International Conference on Solar Heating and Cooling for Buildings and Industry; West Africa Built Environment Research Conference 2017; 8th International Conference on Sustainability in Energy and Building 2016 |
| 2014 → | **Reviewer peer-reviewed journals**: Building and Environment, Energies, Energy and Buildings, Solar Energy, Solar Energy Advances, Energy for Sustainable Development, Sustainability, Urban Climate, Sustainable Cities and Society, Buildings, Applied Energy, Energy and Climate Change, Urban Forestry & Urban Greening, Urban governance, Frontiers, IEEE Journal of Photovoltaics, IEEE Scholar One, Renewable & Sustainable Energy Reviews, Renewable Energy, Sustainable Energy Technologies and Assessments. |

### Teaching activities

| Year | Programme, institute, and selection of courses |
|---|---|
| 2020 → | **MSc Civil Engineering** - NTNU (Full list - NTNU Profile)<br>Coordinator of the course of Building Physics, Basic Course (7.5 ECTS). Responsible of the Branch A - "Solar building design - modeling & simulation", course of Building Performance Simulation (7.5 ECTS) |
| 2017-2020 | **MArch Architecture** - NTNU<br>Teaching duties of the course of Building Physics for Architects (7.5 ECTS). |
| 2014-2020 | **Msc of Sustainable Architecture -** NTNU, Trondheim, Norway.<br>Courses: Integrated Energy Design (15 ECTS); Theory & Design of Zero Emission (15 ECTS), Climate and Built form (15 - ECTS). |
| 2008-2013 | **Msc in Building Engineering and Architecture** - POLIMI<br>Teaching duties in the courses: Sustainable Construction Technologies + Technological Design Lab (9 ECTS); Building elements design, (12 ECTS). |

### PhD/Master thesis committee member

| Year | Number, programme and institute |
|---|---|
| 2019 → | **12 Master thesis**: (1) Università degli Studi di Padova (1) POLIMI, Italy (1) University of Calgary (9) NTNU-IBM |
| 2020 → | **20 PhD thesis defences – Role as opponent** (list of selection)<br>1. Candidate: Benjamin Govehovitch (UCBL 1, France) - Topic: Implementation of an integrated methodology for the assessment of the photovoltaic potential on a district scale – Focus on the buildings' vertical facades.<br>2. Candidate: Marco Lovati (EURAC, Institute for Renewable Energy, Bolzano, Italy) - Topic: Methods and tools for BiPV implementation in the early stages of architectural design.<br>3. Candidate: Hassan Gholami (University of Stavanger, Norway) - Topic: Feasibility Study of Building Integrated Photovoltaic (BIPV) as a Building Envelope Material in Europe. |

### Fellowships and awards

| Year | Fellowships and awards |
|---|---|
| 2022 → | **NTNU Outstanding Academic Fellows Programme** |
| 2021 → | **NFR FRIPRO FRINATEK project HELIOS** (see details below) |
| 2019-2020 | **Åsgard Research+** programme 2018, 2019 and 2020 (NFR - Institut français de Norvège) |
| 2013 | **ISSNAF/CNI Summer program expanded/USA-Italy Scholarship** - Visiting scholar period at MIT - Massachusetts Institute of Technology, Cambridge MA Mobile Experience Lab |

### Mobility

| Year | Experience and host institute |
|---|---|
| 2012 | **International collaborative PhD research experience** (1 year) at the Faculty of Built Environment, University of New South Wales, Sydney, Australia |
| 2013 | **Short-Term Scientific Missions for visiting research period** (3 weeks) at Tecnalia Research & Innovation Spatial Development and Urban Sustainability Area, Energy and Environment Division, Bilbao, Spain |
| 2019 -2020 | **Short-Term Scientific Missions for visiting research period** (3 weeks) at Claude Bernard University Lyon 1 INSA, University of Savoy Mont Blanc CETHIL, France |

### Memberships of scientific societies

| Year | Scientific society |
|---|---|
| 2017 → | ***Member of International Solar Energy Society*** |

## Teaching activities

| Year | Recent projects and international collaborations |
|---|---|
| 2025 → | **KPN SolKit - A toolkit for sustainable PV integration in the Norwegian built environment** (Total budget: 16 MNOK)<br>– Leader of WP3 BIPV in neighbourhoods. |
| 2025 → | **COST Action Go2CHANGE** (Total budget: 0.6 M€)<br>– Co-leader of WG2 - Climate change adaptation |
| 2024 → | **IPN - Brannsikre fasader med solceller / Fire safety facades with solar cells** (Budget: 0.225 MNOK)<br>– Participant and active member contributing to research activities and deliverables |
| 2024 → | **IEA PVPS Task 15 - Enabling Framework for the Development of BIPV**<br>– Co-leader of the activity A3 - BIPV in our society.<br>– Participant and active member contributing to other activities and deliverables. |
| 2021 → | **NFR FRIPRO FRINATEK project HELIOS - enHancing optimal ExpLoItatoion of solar energy in NOrdic citieS through the digitalization of the built environment** (Total budget: 16 MNOK)<br>– Project Manager and Primary Investigator |
| 2019 - 2024 | **IEA SHC Task 63 "Solar Neighborhood Planning"**<br>– Co-leader of the Subtask D "Case studies"<br>– Participant and active member contributing to Task's deliverables. |
| 2018 - 2019 | **iSTAR – interdisciplinary intensive SusTainable ARchitecture course (UTFORSK)**<br>– Double Degree program on Sustainable Architecture and design of Zero Emission buildings between NTNU and Xi'an University of Architecture and Technology (China). |
| 2018 - 2020 | **REINVENT - REsponsive, INtegrated, VENTilated windows (Double Skin Façade system)**<br>– Researcher |
| 2017 - 2022 | **COST Action PEARL PV** - Participant to "WG4: PV in the built environment" |
| 2014 - 2018 | **EU FP7 RAMSES - Reconciling Adaptation, Mitigation and Sustainable Development for CitieS** (Total budget: 5.2 M€)<br>– Contribution WP2 - Taxonomy of Architecture and Infrastructure indicators.<br>– Contribution WP4 - Climate change scenario for urban agglomerations. |
| 2014-2018 | **EU FP7 CoSSMic - Collaborating Smart Solar-powered Microgrids** (Budget: 4.2 M€)<br>– Contribution in WP3 - Technical architecture and technology<br>– WP4 - Agent design and implementation |
| 2013-2017 | **IEA SHC Task 51 "Solar Energy in Urban Planning"**<br>– Participant and Leader of Subtask C "Case Studies and Action Research" |

## Early achievements track record

Gabriele Lobaccaro is **Professor** in *Solar Design and Building Performance Simulation* at the Dept. of Civil and Environmental Engineering at Norwegian University and Science and Technology. From 2021 to 2025, he **coordinated** the research and education of the **Building Technology research group**.

Gabriele's **background** is grounded on building engineer and architecture knowledge. His technical expertise convers, among others: solar energy systems integration at building and district level, urban energy planning, climate-based solutions, mitigation, and adaptation strategies, environmental, microclimate and energy analyses, monitoring data, building simulation tools, building technology, daylighting, sustainable architecture, energy efficient buildings, resilient and smart cities, parametric modelling.

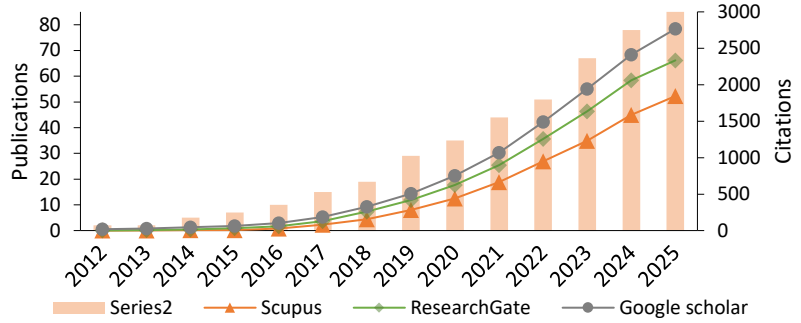
Gabriele is **emerging researcher in the field of solar energy in built environment,** and he is contributing to advance the-state-of-the-art through the **definition of solar neighbourhood's archetypes, approaches, methods, and tools** to accelerate the use of solar energy in complex urban environments. In that regard, he coordinated the *Subtask C "Case studies and Action research"* in the *IEA Task 51 Solar Energy in Urban Planning* and Subtask D "Case studies" in the *IEA Task 63 Solar Neighbourhood Planning. He is co-leader of the Activity A3 – BIPV in our society within the PVPS Task 15 - Enabling Framework for the Development of BIPV*. He is active member of the management group of the *NTNU Energy Team Solar* and of the Gemini Centre Solar Cells. He experienced in several national (REINVENT, HELIOS, SolKit, Brannsikre fasader med solceller), European (Exploit4InnoMat, RAMSES, CoSSMic) and international research projects (SEniC, SiNoPSE, iSTAR).

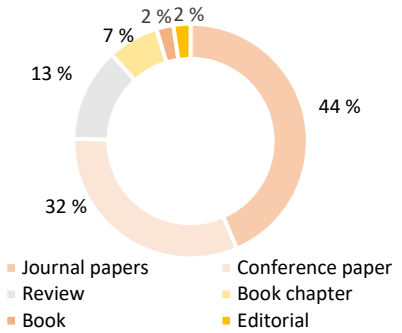
Gabriele has co-/author of **more than 85 publications**, including research articles in international high impact peer-reviewed journals for which he is also reviewer. His h-index is 25 and has received more than 1800 citations (Scopus). He is the **top-ranking cited researcher** for **Solar potential** (Google Scholar). His scientific recognition growing nationally and internationally through invited presentations in international conferences, public seminar, academic lecture, contributions in journal articles for special issues.

Gabriele coordinates the course of **Building physics**, and he is responsible for the Branch A - "Solar building design - modeling & simulation" within the course of **Building performance simulation** and coordinates the master thesis in Building and Material Eng. He organized several international workshops for students and professionals he has taken part in several international summer schools as tutor. He has supervised more than **35 master/bachelor students**, hosted more than **10 trainees**, supervised for **3 Ph.Ds. as main supervisor** and as **co-supervision of 8 Ph.Ds**, and **2 Postdocs,** and he has been opponents in **Ph.D. defences more than 15 times**.

## 1. NUMBER OF PUBLICATION and BIBLIOMETRIC INDICATORS

| Measure | Indices |
|---|---|
| Publications | **48** (**11** reviews) Peer-reviewed journals, **27** Peer-reviewed conference proceedings, **2** Book, **6** Book chapters, **2** Editorials |
| H-index: | **25** (Scopus) / **28** (Google Scholar) / **26** (Research Gate) |
| Citations | **1848** (Scopus) / **2789** (Google Scholar) / **2339** (Research Gate) |




## 2. SELECTED PEER REVIEWED PUBLICATIONS

**List of five publications in major peer-reviewed scientific journals** (full list at Google Scholar)

1. Manni M., Formolli M., Boccalatte A., Croce S., Desthieux G., Hachem-Vermette C., Kanters J., Ménézo C., Snow M., Thebault M., Wall M., **Lobaccaro G.**, *Ten questions concerning planning and design strategies for solar neighborhoods*, 2023, Building and Environment, vol. 246, art. 110946. (Citations: 34 Scopus)
2. **Lobaccaro G.**, Lisowska M.M., Saretta E., Bonomo P., Frontini F., *A methodological analysis approach to assess solar energy potential at the neighborhood scale*, Energies, Vol. 12, (2019), art. 3554, (Citations: 64 Scopus)
3. **Lobaccaro G.**, Croce S., Lindkvist C., Munari Probst M.C., Scognamiglio A., Dahlberg J., Lundgren M., Wall M., *A cross-country perspective on solar energy in urban planning: Lessons learned from international case studies*, Renewable and Sustainable Energy Reviews, Vol. 108, (2019), pp. 209-237. (Citations: 100 Scopus)
4. **Lobaccaro, G.,** Croce, S., Vettorato, D., Carlucci, S., *A holistic approach to assess the exploitation of renewable energy sources for design interventions in the early design phases*, Energy and Buildings, Vol. 175, (2018), pp. 235-256. (Citations: 34 Scopus)
5. **Lobaccaro G**., Carlucci S., Croce S., Paparella R., Finocchiaro L., *Boosting solar accessibility and potential of urban districts in the Nordic climate: A case study in Trondheim*, Solar Energy, Vol. 149, (2017), pp. 347-369. (Citations: 84 Scopus)
6. Good C.S., **Lobaccaro G.**, Hårklau S., *Optimization of solar energy potential for buildings in urban areas - a Norwegian case study*, Energy Procedia, Vol. 58 (2014) pp 166-171. (Citations: 37 Scopus)
7. **Lobaccaro G**., Frontini F., *Solar Energy in urban environment: how urban densification effect existing buildings*, Energy Procedia, Vol. 48, (2014), pp. 1559-1569. (Citations: 81 Scopus)

## 3. INVITED PRESENTATION TO PEER-REVIEWED, INTERNATIONAL CONFERENCE

More than **20 International conference presentations.** (a selection in solar conferences)

1. Lobaccaro G., FME NTRANS User case urban energy conversion - Consequences for urban restructuring of the building energy directive, Oral presentation: "European EPBD with focus on the use of solar systems in Norway" FME NTRANS, Participants: 20; Target audience: Researchers and Industry, Language: Norwegian
2. Urban planning for solar energy - IEA SHC TASK 51, Oral presentation - ISES Solar World Conference and 5th International Conference on Solar Heating and Cooling Conference for Buildings and Industry 2017; Oct 29 – Nov 02, Abu Dhabi; UAE
3. Solar Optimization of Housing Development; Poster presentation at International Conference of Solar Heating and Cooling for Building and industry 2015, Istanbul (Turkey).
4. A digital language for a new sustainable urban planning: a combination of design and simulation tools for solar architecture; Oral presentation at Building Simulation and Optimization 2014 Conference, June 23-24, 2014, London (UK).
5. An interactive workflow for urban solar design approach: a case study of Norway; Oral presentation at 20th Annual International Sustainable Development Research Conference, NTNU, June 18-20, 2014, Trondheim (Norway).

More than **20 Invited presentations**. (a selection list).

1. Public seminar - Solenergi i Bykvarterer_Cophenhagen, Oral presentation entitled "Subtask D. Case Studies - Solar Neighborhood Planning: lesson learned collection of case studies", 29th November 2023, Copenhagen, Denmark
2. Public Seminar on SOLAR NEIGHBORHOODS, Oral presentation entitled "Solar digitalization techniques to enhance optimal exploitation of solar energy in the Nordics", 23rd September 2022, Calgary, Canada
3. Solar energy in Nordic built environments: opportunities, challenges and barriers. Oral presentation at COST Action PEARL PV - WG4 Workshop: Photovoltaic Systems in the Built Environment (around 30 people), Jan 19, 2022 (Digital)
4. Solar energy in Nordic climate: the case studies of Trondheim. Oral presentation at COST Action PEARL PV – Cross fertilization S3 Simulation of complex shading for BIPV (around 30 people), Feb 26, 2020, Utrecht, The Netherlands
5. Solar and micro-climate analyses in new and existing neighbourhoods and buildings: research and educational experiences, Oral presentation in public seminar (30 people), INES Le Bourget-du-Lac, France, Oct 9, 2018.
6. Solar Energy in Urban Environment, Oral presentation in student classroom (20 students), Oct 5, 2018, University Claude Bernard Lyon 1, Lyon, France