



## NICOLO GUARIENTO

M.SC. – ING.

Flüelastrasse 47  
8047 Zurich  
SWITZERLAND

[www.enguariento.com](http://www.enguariento.com)

+41 76 463 98 62

[Nicolo.Guariento@enguariento.com](mailto:Nicolo.Guariento@enguariento.com)

[in Nicolo Guariento](#)

## LANGUAGES

English	fluent
German	fluent
Italian	native speaker
Spanish	fluent
Danish	basic

## QUALIFICATIONS

DGNB-Auditor

Certified Passivhaus Designer

Approved Building Physics Assessor at the Chamber of Engineers, North Rhine-Westphalia

Approved Building Physics Assessor at the Chamber of Engineers, Hessen

Machine Learning at Stanford University – 11 weeks online training

## PUBBLICATIONS

Simon Roberts, Nicolo Guariento  
“Building Integrated Photovoltaics / a handbook” – Birkhäuser

Jan Wurm, Nicolo Guariento  
“Energieerzeugungssysteme an der

## PROFILE

Building physics engineer with 14 years of experience in delivering complex designs and technical solutions for the built urban environment. Highly motivated and focused on wellbeing and energy efficiency through the integral use of innovative building materials and future-oriented technologies. Experienced in leading multidisciplinary teams, including cross-office coordination. Strong interest in the application of digital transformation and machine learning principles to new constructions and existing buildings. Client-oriented and committed to quality and excellence in delivering work.

## SKILLS AND ABILITIES

- Team Leadership
- Collaborative working
- Project management
- Client care
- Digital transformation
- Business development
- Commercial acumen
- Building physics
- Dynamic building simulations
- Parametric design
- Machine learning
- Indoor climate and wellbeing
- Sustainable development
- Circular design & economy

## WORK EXPERIENCE

### FREELANCE CONSULTING

10.2020 – now

Ad-hoc support in the field of Building Physics, Indoor Comfort design, Decarbonisation and Digitalisation of buildings.

- Building Physics and Digitalisation concept for a multi-use building in Acquarossa, Ticino;
- Building Physics assessments of a heritage listed airport terminal to be transformed in cultural and office building;
- Development of building physics and indoor comfort concepts for residential building complexes.

### FUTURE CITIES LABORATORY GLOBAL, ETH ZURICH

12.2020 – now

Associate Director Technology and Digitalisation

- Coordinating the development of the digital and educational tool *Engagement Platform* of the ETH Future Cities Laboratory;
- Development of strategies for data management and storage for urban development and smart cities;
- Development of a *federation of tools* for a multidisciplinary assessment of the urban environment in terms of ecosystem services, energy demand and consumption, economy;
- Coordination of the SNF-Sinergia application for a 3Mio-CHF-research project investigating climate change and its effects on the relationship between individuals and buildings in Switzerland;

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### TALKS AND CONFERENCES

“Building Metabolism” – Swiss School of Disruption, 2023, Online

„Future Cities Laboratory Global – Research Approach for Complex Cities” – NUS CITIES SYMPOSIUM, The Science of Cities 2023, Singapore

„The Slow way to Sustainability” – ETH Week 2022, Zurich

“Future Cities Laboratory Global Engagement Platform” - GEO Summit 2022, Olten

“Wellbeing Design: Die regenerative nachhaltige Planung kann nicht mehr warten” – ARCHITEKTEN-TAG Gesundes Wohnen 2020, Ehingen Donau (D)

„Engineering is Sustainability“ – Lecture at Danish Architecture Centre, Copenhagen (DK), 2018

„Design Drivers for Building Integrated Photovoltaics” - ETIP PV Workshop 2018, Berlin(D),

„Planung und Bewertung von Fassaden mit dem Fokus auf Sommerlichen Wärmeschutz“ - Architektenforum 2017, Dortmund (D)

“Optimization methods applied to the design of glazing façades for an office building” – Advanced Building Skins 2016, Bern (CH)

„BIQ: Die bio-adaptive Fassade“ - Norddeutsche Passivhauskonferenz 2013, Hamburg (D)

„Hybrid Skin Design“ – Workshop Woche Beuth Hochschule für Technik, Berlin (D), 2009

## OVE ARUP & PARTNERS A/S, COPENHAGEN

06.2018 – 09.2020

Lead Indoor Climate Design Team Denmark  
European Lead Environmental and Building Physics Skill Network  
Business Development Lead, Building Sector

- Indoor climate design lead for new-built healthcare, commercial and technology projects;
- Project manager for the refurbishment of an international governmental institution security facility, including design development, tender documentation preparation and tender evaluation;
- Client relationship manager for an international governmental institution;
- Developed and implemented sustainability strategies based on the 17 UNSDGs;
- Leading research projects enabling the application of machine learning algorithms for building energy optimisation;
- Facilitate the established of a cross-office approach to Computer Fluid Dynamic simulations;
- Responsible for the professional growth of a team of 9 staff;
- Responsible for the technical skill development of a European Specialists network (40+ members);
- Leading role in the creation of the business development strategy 2019-2022 for the buildings sector in Denmark;
- Promoting the use of digital platforms to facilitate design coordination and project delivery.

## ARUP DEUTSCHLAND GMBH, BERLIN

03.2009 – 05.2018

Lead Building Physics and Acoustics Team Germany

- Started and established the building physics team in Germany;
- Building physics design lead for multiple new-built educational, commercial and governmental facilities as well as for the refurbishment of heritage buildings;
- Conducted energy certifications (EnEV), thermal losses calculations, condensation risk assessments and comfort simulation for new and existing buildings;
- Enabled the application of parametric design work-flows and calculation tools based on evolutionary optimization algorithms;
- Active role in the development of innovative products and their building integration, such as photobioreactor façade panels, bio-composite construction elements, vacuum based insulating components;
- Key reference for the development of the building physics and sustainability strategies in various architectural competitions;
- Active role in the technical assessment of existing building facades, including on-site activities, failure investigations, technical reporting, checking of implementation of mitigation measures;
- Conducted research projects on the optimization of BIPV

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- Lead of project bidding, including identification of scope of work and commercial conditions, negotiation process and financial management of a project.
- Project manager for German, European and international projects;
- Responsible for design coordination, preparation of key project deliverables, delivery on-time and within the budget;
- Commercial manager for the German Specialists Team;
- Responsible for the development and implementation of a project review strategy aimed to guarantee high quality deliverables.
- Guest lecturer at TU Munich, Università degli Studi di Genova, Hochschule Holzminden and speaker at various conferences.

**OVE ARUP & PARTNERS LTD, LONDON**

11.2006 – 02.2009

Building Envelope Physics Engineer

- Design engineer for various project, responsible for producing and delivery façade thermal and energy assessment;
- Author of a handbook on building integrated photovoltaics

**EDUCATION****UNIVERSITÀ DEGLI STUDI DI UDINE, ITALY**

2000 – 2006

BSc and MSc in Mechanical Engineering (Energy &amp; Environment)