

# Prof. Giovanni Betti



**Faculty of Architecture**  
**Professor of Building Technology and Building Physics**

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Giovanni Betti is an architect, researcher, and educator working at the intersection of sustainable design, digital innovation, and architectural practice. He brings wide-ranging experience across leading firms and universities.

He worked as Associate Partner in the Specialist Modelling Group at Foster + Partners in London contributing to projects such as Masdar City, Apple Park, Bloomberg HQ, and a speculative 3D-printed lunar habitat for the ESA. As Senior Associate and Head of Sustainability at HENN in Berlin, he helped shift the practice toward performance-based, climate-conscious design, integrating digital environmental tools across projects like Zalando HQ, Merck Plaza, Carbon CUBE in Dresden and the new Berlin Fire Department Academy.

In academia, he was Assistant Professor at UC Berkeley College of Environmental Design, and faculty member of the Center for the Built Environment, where he co-developed CBE Clima, a digital tool for climate-responsive design, and he was Guest Professor for Digital Experimental Design at the University of the Arts in Berlin.

His work has been exhibited internationally, among others at the Venice Architecture Biennale, the Royal Academy of Arts, and the Sapporo International Art Festival, and he regularly speaks, teaches, and advises on decarbonization, circularity, and digital tools and methods for sustainable architecture.

## Education

MSc in Ecological Building Systems, Rensselaer Polytechnic Institute (RPI), Troy, NY, USA, 2006; Supervisor: Prof. Arch. A. Dyson

Master of Architecture, Università degli Studi di Roma 'La Sapienza', Rome, Italy, 2005 (*Summa cum Laude*); Supervisor: Prof. Arch. A. Saggio

## Research Interests/Thesis Supervision

Giovanni Betti's research explores how digital tools can advance sustainable architectural design and fabrication. His work focuses on integrating building performance—such as daylighting, thermal comfort, and outdoor microclimate—into early-stage design processes through performance-based and climate-responsive strategies.

He investigates how computational methods and digital simulations can support carbon-aware decision-making, adaptive reuse, and material circularity. Giovanni is also interested in the role of parametric design and digital fabrication in enabling efficient, low-impact construction systems. His research bridges architectural practice and academia, aiming to drive systemic change toward decarbonization and resilience in the built environment.

## Selected Research

- December 2023 Betti G, Tartarini F, Nguyen C, Schiavon S  
CBE Clima Tool: a free and open-source web application for climate analysis tailored to sustainable building design  
Building Simulation 17, 493–508 (2024).  
[doi.org/10.1007/s12273-023-1090-5](https://doi.org/10.1007/s12273-023-1090-5)
- September 2023 Betti G, Aziz S, Gengnagel C  
Programming Design Environments to foster human-machine experiences  
Chapter in: Barberio, M., Colella, M., Figliola, A., Battisti, A. (eds) Architecture and Design for Industry 4.0. Lecture Notes in Mechanical Engineering. Springer, Cham.  
[doi.org/10.1007/978-3-031-36922-3\\_4](https://doi.org/10.1007/978-3-031-36922-3_4)
- January 2023 Parkinson T, Schiavon S, Jungsoo K, Betti G  
Common sources of occupant dissatisfaction with workspace environments in 600 office buildings  
Buildings and Cities 4(1):17-35  
DOI: [10.5334/bc.274](https://doi.org/10.5334/bc.274)
- September 2022 Gengnagel C, Baverel O, Betti G, Popescu M, Ramsgaard Thomson M, Wurm J  
Towards Radical Regeneration  
Proceedings of the Conference: Design Modelling Symposium  
Springer  
<https://link.springer.com/book/10.1007/978-3-031-13249-0>
- June 2022 Betti G, Fleck K  
La montagna invisibile (*The invisible mountain*)  
AND Rivista Di Architetture, Città E Architetti, (39).  
[and-architettura.it/index.php/and/article/view/323](https://and-architettura.it/index.php/and/article/view/323)
- September 2019 Betti G, Aziz S, Ron G  
Pop-Up Factory: Mixed Reality Installation for the MakeCity Festival 2018 in Berlin  
Proceedings of the Conference: eCAADe/SIGraDI 2019, Architecture in the age of the 4th Industrial Revolution  
[http://papers.cumincad.org/cgi-bin/works/paper/ecaadesigradi2019\\_425](http://papers.cumincad.org/cgi-bin/works/paper/ecaadesigradi2019_425)
- September 2018 Betti G, Aziz S, Rossi A, Tessmann O  
Communication Landscapes  
Proceedings of the Conference: Rob|Arch 2018, Robotic Fabrication in Architecture, Art, and Design, Zurich, Switzerland. 2018  
<https://www.springerprofessional.de/en/communication-landscapes/16073160>
- May 2016 International Patent (First Inventor)\*  
Betti G, Craig S, Van Der Harten A, Gallou I, Capra S, Jones M, Bencini S, Behling S, Mazarrasa L  
Integrated Panel  
Publication Number: WO/2016/079499  
<https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2016079499>