



Academic profile



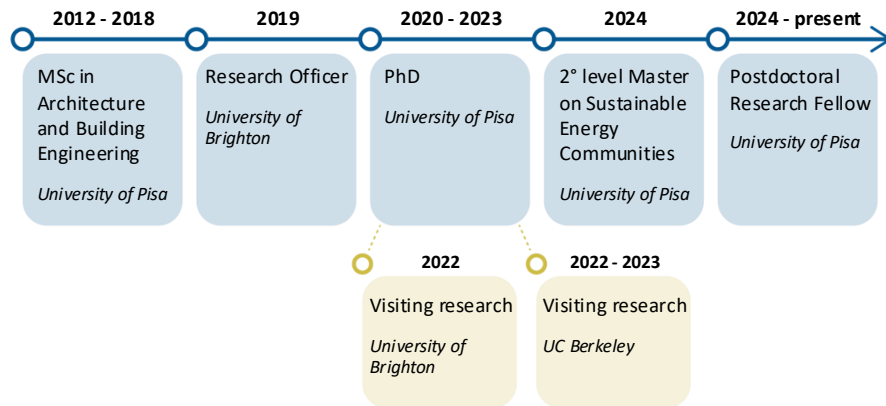
Roberto Rugani

PhD – MSc Building
Engineer and Architect



From building performance to occupant-environment interactions, for **energy-efficient**, **healthy** and **climate-resilient** built environments.

Academic journey

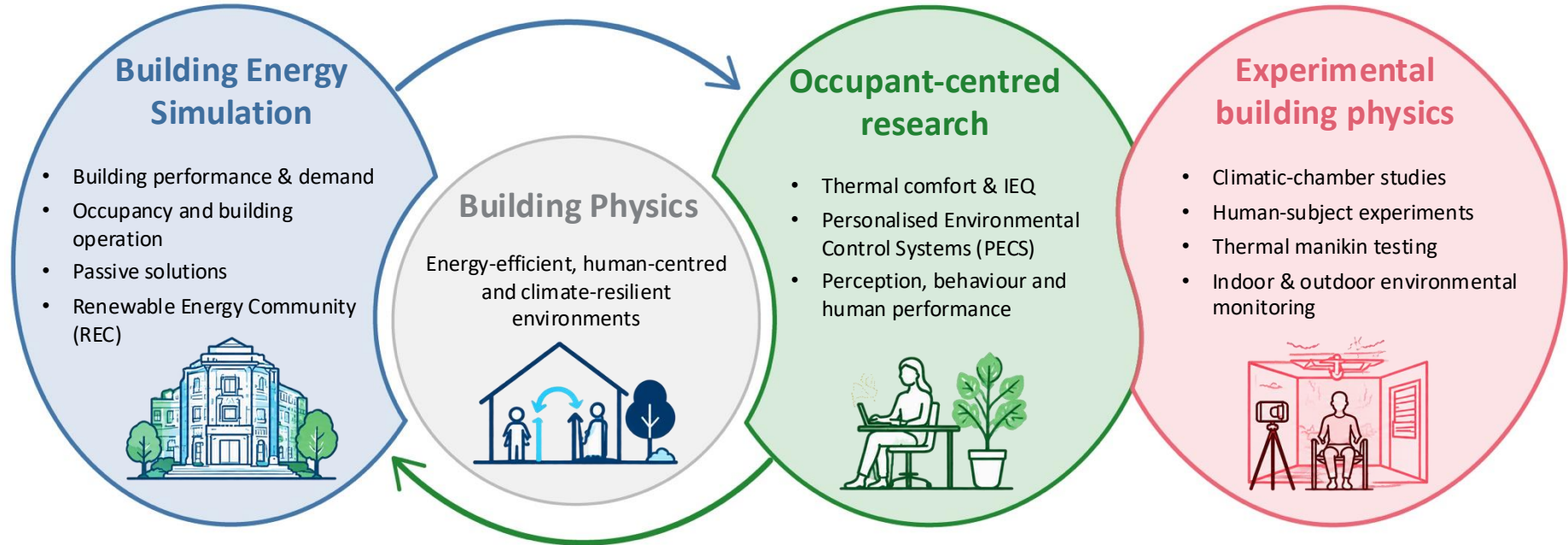


Research contribution to
Sustainable Development
Goals



Main Research topics (Scopus)

- 1** Thermal Comfort Models in Dynamic Environments
- 2** Decentralized Energy Trading and Blockchain Integration
- 3** Vertical Green Systems for Urban Sustainability
- 4** Integration of Multi-Energy Systems for Sustainable Solutions
- 5** Heat Exposure in Climate Change
- 6** Optimizing Indoor Thermal Comfort and Energy Use
- 7** Community-Based Renewable Energy for Sustainable Development





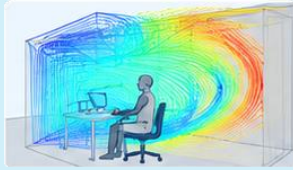
Research approach

Numerical modelling

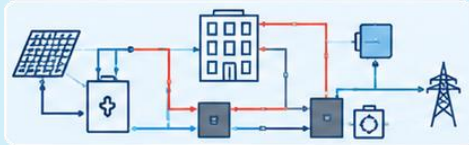
From buildings and systems to dynamic performance



Building and district energy modelling



CFD and indoor environment modelling



Multi-energy systems and renewable communities

Data analysis & integration



Experimental research

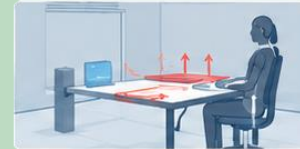
From controlled studies to human response



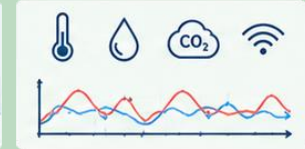
Climatic-chamber experiments



Thermal manikin testing



Personalised Environmental Control Systems (PECS)



Environmental monitoring



MODEL

Represent the building, systems and occupants



SIMULATE

Analyse performance in dynamic conditions



ANALYSE

Integrate data and extract knowledge



TEST & MEASURE

Experimental validation and human response



APPLY

Design solutions for energy-efficient, healthy and climate-resilient built environments



Ongoing research activities

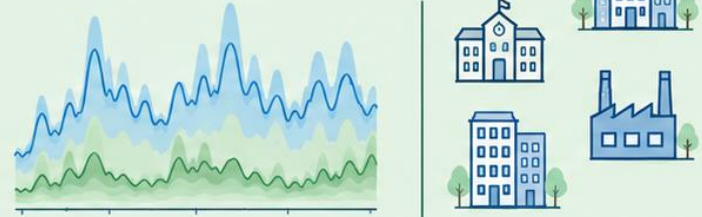
Renewable Energy Communities (REC)

Energy assessment and feasibility studies



Building electricity profiles

Modelling and simulation of building use profiles



From data to energy-efficient, healthy and climate-resilient built environments

Personalised Environmental Control Systems (PECS)

Development and evaluation of personal comfort solutions for human-centred indoor environments



Microclimate and thermal refuges

Assessment and mitigation of heat exposure



Efficient industrial buildings

Energy efficiency of processing warehouses





International network and scientific impact

International dissemination



Research output (Scopus)

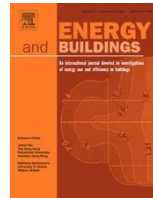


Scopus[®]



27
Publications

Main publication journals



Main international collaborations

