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Call for PhD position

2 PhD positions in QuiVal Project - Quantum Inspired Valuation of Circular Real Estate
HORIZON-MSCA-2023-DN-01
Marie Skłodowska-Curie Actions - MSCA Doctoral Networks 2023 Developing talents, advancing research

Application deadline: 11.10.2024
Where to send your application: Department of Architecture (DiARC), University of Naples Federico II
Mail to: varone@unina.it

Additional Information
For more information about these vacancies, please contact prof. Maria Cerreta, Full Professor, Department of Architecture (DiARC), University of Naples Federico II, e-mail: maria.cerreta@unina.it

QuiVal Project - Quantum Inspired Valuation of Circular Real Estate
HORIZON-MSCA-2023-DN-01
Marie Skłodowska-Curie Actions - MSCA Doctoral Networks 2023 Developing talents, advancing research supported by the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No.101169048), https://quival-research.eu/.

About QuiVal Project
Delft University of Technology, University of Naples Federico II, University of Southern Denmark, Tallinn University of Technology University, University of Antwerp, together with associated academic partners University College London, University of the West of England, and ETH Zurich) in conjunction with industry partners in the Netherlands, Switzerland, UK, Italy and Denmark have been awarded an EU-funded MSCA Doctoral Network Grant – **QuiVal**: Quantum Inspired Valuation of Circular Real Estate.

Eight universities and fourteen practice partners will jointly contribute to create a transdisciplinary research environment that encompasses stakeholders involved in the production and operation of CO2 neutral real estate and represent academic backgrounds in architecture, civil engineering, real estate valuation/investment/development/management, economics, finance, industrial ecology, waste management, circular economy (CE), social value and block chain.

QuiVal will train a new generation of professionals who can take an innovative, climate-aware approach to real estate valuation. To achieve the European aim of becoming CO2 neutral before 2050, the real estate industry being one of the biggest polluters urgently needs to reduce its emissions. To date, investment real estate is valued based on its potential future income generation, without considering environmental and societal values. A few studies have been conducted that show the added value of energy efficient real estate, but little attention has been given to understand the value of real estate that is CO2 neutral throughout its life cycle, which means neutral in both production and operation. Incorporating broader real estate values requires a new valuation approach, to be able to include carbon emissions associated with construction, maintenance, refurbishment and demolition activities, the future value of the reuse potential of buildings and their components and materials.

Through research on the broader value of circular real estate and new approaches to valuation, **QuiVal**, will contribute to achieve the European aim of becoming CO2 neutral before 2050.

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QuiVal uses inspirations from the concepts of quantum mechanics to reconceptualise value that can take on multiple facets (e.g. environmental and societal value) and to account for disparities when actors disagree on the exact value. Developing a valuation approach that can incorporate these extensions is a transdisciplinary challenge that takes into account the full complexity of value drivers in real estate and builds on principles derived from quantum mechanics in its methodology.

13 Doctoral Candidates (DCs) (3 financed by outside funding), hosted across the network, will work together to form a new, innovative approach that integrates:

- A fundamental study and implementation of new value and valuation concepts in real estate using quantum theories (3 DCs);
- Financial, environmental and societal values integrated at the urban, building, component and materials levels (6 DCs);
- Digital advances (e.g. computer-based changes) and analogue advances (physical and behavioural changes) in valuation techniques that enable observation and quantification of these values (4 DCs).

The following **2 DC Projects** will be hosted by the **Department of Architecture (DiARC), University of Naples Federico II**:

1. **DC4 – PhD Position: Climate change and sustainability transition in circular real estate valuation**
2. **DC5 – PhD Position: Circularity aspects and sustainability transitions as factors in real estate valuation**

Eligibility criteria

To apply for one of these PhD positions, the applicant should fulfil the following conditions:

- Have — at the date of recruitment — a Bachelor and/or Master degree in a discipline as indicated in the project description specific to the beneficiary to which you are applying.
- Trans-national mobility: The applicant — at the date of recruitment — should not have resided in the country where the research training takes place for more than 12 months in the 3 years immediately prior to recruitment, and not have carried out their main activity (work, studies, etc.) in that country. For refugees under the Geneva Convention (1951 Refugee Convention and the 1967 Protocol), the refugee procedure (i.e. before refugee status is conferred) will not be counted as 'period of residence/activity in the country of the beneficiary'.
- Be able to communicate fluently in English (speaking and writing). Oral interview with the prospective advisor may be required.

Note: A Master's degree (or equivalent) is not necessary at the time of the application, but will be required at the date of recruitment (3rd quarter of 2024).
For informal enquiries about these posts please contact the supervisor associated with the project of interest: prof. Maria Cerreta (maria.cerreta@unina.it).

To Apply

Applications are to include:

- A short cover letter explaining your personal motivation in pursuing a PhD, including how you see the PhD fitting into your career trajectory;
- A CV, which should include details of your eligibility (degree and residency);
- Copies of your BSc and MSc degrees and transcripts;
- A sample of writing, e.g., master thesis, scientific publications, professional or popular science writing;
- Names and contact information of at least three relevant references. We will not contact references without your consent.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 101169048.

- Mail to: varone@unina.it; indicating the reference to **QuiVal-UNINA DC4** or **QuiVal-UNINA DC5** in the subject.

Please be aware that your application will be shared amongst the beneficiaries of **QuiVal**.
All positions are recruited in line with Open, Transparent, Merit (OTM) and Competency based recruitment.

Offer description
Applications are invited from suitably qualified doctoral candidates for 13 Doctoral Candidate positions to pursue PhD education as part of the European MSCA DN project "**QuiVal**", Quantum Inspired Valuation of circular real estate.
The positions are funded through Horizon Europe MSCA DN grant number 101169048
The ideal starting date is **1 February 2025**.

Benefits
The PhD candidate will be contractually temporary employed by University of Naples Federico II and will be covered under the social security scheme.
He/She will receive a Monthly Living Allowance plus a Mobility Allowance compliant with the applicable Marie Skłodowska-Curie ITN general conditions.
Salary will be within the range of **48.729 € - 73.094 €** (*before* taxes, pension, etc., in accordance with national legislation).

Selection process
As soon as the deadline for applications expiries, all applicants will be immediately notified whether their application has been passed for assessment.
Applicants who passed for the assessment will be interviewed online by the MSTeams platform on **18 October 2024**, and the results of the selection will be communicated by E-mail, not later than the middle of October.

Work Location
2 positions available at: Department of Architecture (DiARC), University of Naples Federico II, Complesso dello Spirito Santo, Via Toledo 402, 80134, Napoli, Italy.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 101169048.

DC4 – PhD Position
Climate change and sustainability transition in circular real estate valuation
https://euraxess.ec.europa.eu/jobs/265172

Do you want to be part of the circular revolution to rethink the way we value the built environment?
Join us as a fullyfunded doctoral candidate (DC) in the **QuiVal** doctoral network, where we learn, ideate and reimagine real estate value and valuation practices by drawing inspiration from quantum theories.

Job description
In order to make our cities more circular, we need to fundamentally revisit the way that we define and quantify the value of our built environment. This fully funded doctoral project is part of a Marie Sklodowska Curie Action Doctoral Network, **QuiVal**, a programme funded by the European Union with the aim to develop a fundamentally new approach to real estate valuation, allowing the sector to rapidly transition towards a more sustainable, low carbon and circular future.
This will be achieved through a transdisciplinary doctoral training programme across 8 universities and 14 industry partners, and including 13 doctoral candidates who will work, together and separately, to rethink the philosophy, principles and processes of valuation.
The programme is transdisciplinary and co-produced by leading academics and practitioners who are passionate and knowledgeable about the real estate industry and about sustainability. Five objectives have been developed through which to achieve the aim, and each doctoral project will respond to one of these objectives. For an overview of all the vacancies of **QuiVal**, click here.

The doctoral project at the Department of Architecture, University of Naples Federico II (r**esearch project DC4**) is part of the response to the second objective, 'Value of the building that lasts'. Using quantum concepts, this project will study how location features are affecting the value of a building, specifically with respect to climate change. Following, this project will study the potential of buildings being adaptively reused, maintaining their use and avoiding vacancy (and obsolescence), and building and location features affecting value depreciation or increase. A particularly relevant issue is whether adaptable buildings depreciate at a slower rate than less adaptable buildings in locations that are affected by climate change. Another question is which locations would be more favourable for adaptable developments or extending building lifespan and which locations would be favourable for demountable or shorter lifespan buildings.
The objective of **project DC4** is to explore, develop and test the value of a building in its urban setting, considering location factors interaction at different scales and the impact of different uses, temporary or permanent.
Furthermore, the aim of **project DC4** is to develop knowledge on factors to be included in building valuation, including also climate changes, adaptation and mitigation, circularity and building adaptability. As well as a dissertation, and a number of academic papers, the project will produce an accessible report for real estate professionals.

The doctoral candidate (DC) will spend the majority of the funded three years at the Department of Architecture, University of Naples Federico II in Naples, Italy, but will also be funded for two periods on secondment to **QuiVal** partners, one to industry partner RINA and the other to university partner University College London in London, United Kingdom.
There will also be significant opportunities for sharing knowledge and fostering discussions with the other 12 DCs, through five workshops and three summer schools. The DCs will also work together to collect data, and collaborate with stakeholders including a network of industry frontrunners who are partners in the programme, increasing understanding, research impact, and chances of employment in the real estate and related sectors.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 101169048.

Candidate requirements

You will be embedded in the **QuiVal** community. For your role in research **project DC4**, we are looking for a doctoral candidate who has:

- An MSc degree with a background in real estate, valuation, urban and regional economics, spatial planning, architecture or eco-design.
- Proficiency in English speaking, reading and writing (preferred);
- Strong skills in mixed research methods;
- Good communicative and entrepreneurial skills, independent attitude paired with an ability to work in a research team;
- Able to lead in research and involve the research team and industrial partners in knowledge co-creation and sharing activities;
- Affinity with design of new approaches and an open-mind to stretch the imagination of its application are a considered a benefit!

This vacancy follows the recruitment procedures of **QuiVal**, which are set up in compliance to the MSCA doctoral network recruitment rules from the European Commission, most notably the mobility and eligibility of the Doctoral Candidates:

- Candidates may not have a PhD degree.
- Candidates must have not lived in Italy for at least 2 years out of last 3 years.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 101169048.

DC5 – PhD Position
Circularity aspects and sustainability transitions as factors in real estate valuation
https://euraxess.ec.europa.eu/jobs/265173

Do you want to be part of the circular revolution to rethink the way we value the built environment?
Join us as a fully-funded doctoral candidate (DC) in the **QuiVal** doctoral network, where we learn, ideate and reimagine real estate value and valuation practices by drawing inspiration from quantum theories.

Job description
In order to make our cities more circular, we need to fundamentally revisit the way that we define and quantify the value of our built environment. This fully-funded doctoral project is part of a Marie Sklodowska Curie Action Doctoral Network, **QuiVal**, a programme funded by the European Union with the aim to develop a fundamentally new approach to real estate valuation, allowing the sector to rapidly transition towards a more sustainable, low carbon and circular future. This will be achieved through a transdisciplinary doctoral training programme across 8 universities and 14 industry partners, and including 13 doctoral candidates who will work, together and separately, to rethink the philosophy, principles and processes of valuation.
The programme is transdisciplinary and co-produced by leading academics and practitioners who are passionate and knowledgeable about the real estate industry and about sustainability. Five objectives have been developed through which to achieve the aim, and each doctoral project will respond to one of these objectives. For an overview of all the vacancies of **QuiVal**, click here.

The doctoral project at the Department of Architecture, University of Naples Federico II (**research project DC5**) is part of the response to the second objective, 'Value of the building that lasts'. This project will study how features of circularity contribute to the complex value of a building, using quantum concepts.
The objective of **project DC5** is to explore, develop and test the economic, environmental and societal values of a building in its urban setting, considering location factors and their interactions, and the multidimensional impact of different users and investors.
Furthermore, the aim of **project DC5** is to develop knowledge on how higher levels of circularity, like refuse and regeneration, can be included in real estate valuation and could be a leverage for new sustainable transformation processes and transition management. As well as a dissertation, and a number of academic papers, the project will produce an accessible report for real estate professionals.

The doctoral candidate (DC) will spend the majority of the funded three years at the Department of Architecture, University of Naples Federico II in Naples, Italy, but will also be funded for two periods on secondment to QuiVal partners, one to industry partner Ping Property and the other to university partner University of Southern Denmark in Odense, Denmark. There will also be significant opportunities for sharing knowledge and fostering discussions with the other 12 DCs, through five workshops and three summer schools. The DCs will also work together to collect data, and collaborate with stakeholders including a network of industry frontrunners who are partners in the programme, increasing understanding, research impact, and chances of employment in the real estate and related sectors.

Candidate requirements
You will be embedded in the QuiVal community. For your role in research **project DC5**, we are looking for a doctoral candidate who has:

- An MSc degree with a background in real estate, valuation, urban and regional economics, spatial planning, architecture, eco-design, finance, economics, real estate economics, and real estate finance;
- Proficiency in English speaking, reading and writing, (preferred);

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 101169048.

- Strong skills in mixed research methods;
- Strong data handling skills and experience (preferred);
- Good communicative and entrepreneurial skills, independent attitude paired with an ability to work in a research team;
- Able to lead in research and involve the research team and industrial partners in knowledge co-creation and sharing activities;
- Affinity with design of new approaches and an open-mind to stretch the imagination of its application are a considered a benefit!

This vacancy follows the recruitment procedures of **QuiVal**, which are set up in compliance to the MSCA doctoral network recruitment rules from the European Commission, most notably the mobility and eligibility of the Doctoral Candidates:

- Candidates may not have a PhD degree.
- Candidates must have not lived in Italy for at least 2 years out of last 3 years.

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