

# Postdoctoral position (m/f/d) in modelling of plant succession on buildings

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Studio Animal-Aided Design ([www.animal-aided-design.de](http://www.animal-aided-design.de)) in Berlin is part of an international consortium that also involve the Technical University of Munich in Germany, the University of Genua in Italy, the Technical University of Vienna, Austria, TECHNION in Haifa, Israel, and McNeel Europe, based in Barcelona, Spain. The consortium works together in the EU-funded research project **ECOLOPES** (ECOlogical building enveLOPES), to develop a new integrated ecosystem approach to architecture that focuses equally on humans, plants, animals, and associated organisms such as microbiota.

A major part of the research approach will be to model the relationship between architecture, soil, plants and other organisms, applying the latest generation of ecological models to green roofs and other ecological design solutions for buildings. Modelling will be achieved through close cooperation of a team of three postdocs based at SAAD in Berlin, at the University of Genua in Italy and the Technical University of Munich. Studio Animal-Aided Design will provide knowledge on landscape architectural approaches and human-plant interactions in urban design. The advertised position will focus on modelling the plant component in close cooperation with Dr. Isabelle Boulangeat at LESSEM, INRAE, Grenoble, France and the two postdocs in Munich and Genova.

The position is limited to 31 months (100%, approx. 40h/week).

## Your tasks:

Your task will be to model the plant components of the *ecolope*, i.e. the multi-species living envelope of the new type of building envisioned by the ECOLOPES project. The *ecolope* will enable the placement and development of soil, growth, and immigration of plants, settlement and reproduction of animals, and the build-up of a healthy microbiota. At its initial stage, the *ecolope* will be modeled as a seeded substrate where vegetation will develop according to abiotic and biotic conditions, succession dynamics, and management. The development of plant communities will open the *ecolope* to animal colonization and population dynamics.

The envisioned approach is to model the dynamics of virtual plant communities represented by functional groups on different scales (landscape and local scales) using the dynamic vegetation model FATE-HD.

You will

- identify which types of substrates and which soil variables are important (for vegetation, microbes, and architecture), and can be accounted for (e.g. water retention, depth, weight, nutrients, organic matter, soil/substrate structure, pollution level, pH),
- identify which types of human management and usage of plant communities are relevant for ECOLOPES and how they can get integrated into the modell,
- develop the dynamic vegetation modell into a practical planning tool on local scale to plan plant communities and their sucesion.

In close cooperation with **Dr. Isabelle Boulangeat** (LESSEM, INRAE, Grenoble) and other partners you will be involved in

- parameterize FATE-HD to building scale, substrate types and soil development
- integrate impact of human management, usage and animal impact into the modell,
- develop the dynamic vegetation modell into a practical planning tool on local scale to plan plant communities and their sucesion.

## What we expect from you

- University degree (M.Sc.) and Ph.D. in ecology, biology, environmental planning, landscape ecology, or a comparable field of study
- Experience in the modelling of plant communities
- Interest and experience in urban ecology welcome
- Interest in interdisciplinary approaches
- Good language skills (English)
- Ability to work in a team

## Our offer

We offer an interesting and challenging job and a motivated team.

Working hours are flexible. Regarding the salary, we will make you an attractive offer according to your qualifications. It is possible to choose the working location in Freising (together with the Ecolopes working group of the TU Munich) or in Berlin (together with Studio Animal-Aided Design).

## Contact

Please send your application with a short letter of motivation, CV, certificates etc. as well as the contact details of two references per Email to Studio Animal-Aided Design ([mail@animal-aided-design.de](mailto:mail@animal-aided-design.de)) by 28<sup>th</sup> May 2021. Please send all documents as a single PDF document.

Please direct questions about the position to Dr. Thomas E. Hauck ([thomas.hauck@animal-aided-design.de](mailto:thomas.hauck@animal-aided-design.de)) and/or to Dr. Isabelle Boulangeat ([isabelle.boulangeat@inrae.fr](mailto:isabelle.boulangeat@inrae.fr)).

More information about the project can be found at [www.ecolopes.eu](http://www.ecolopes.eu)

Studio Animal-Aided Design  
Dresdener Straße 26  
D-10999 Berlin  
[www.animal-aided-design.de](http://www.animal-aided-design.de)