



International student challenge:
UrbanFarm2019



Guidebook
October 15, 2018

Inspiration for implementing this challenge was provided by the Student Challenge [‘Design the Ultimate Urban Greenhouse’](#) recently organized by Wageningen University & Research, The Netherlands.

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PREFACE

This guidebook was prepared for students who would like to be involved in the international student challenge UrbanFarm2019 as a summary of all information, terms and conditions. The guidebook will be applicable from October 15, 2018 till February 13-14, 2019.

THE CHALLENGE

The competition, dedicated to international teams of students of the Faculties of Agriculture, Biology, Architecture, Design, Economics, Engineering and Social Sciences, aims to design innovative urban agriculture systems that integrate the best architectural and technological innovations to produce plants in urban environments. Three buildings, identified in the municipalities of Belluno, Bologna and Conegliano (Treviso), will be studied and redesigned by the different student teams, in order to propose the best strategies in the three pillars of sustainability (economic, environmental and social). The teams will be ranked based on their choices and building solutions related to the use of growing systems (which may make use of artificial lighting) and climate management, as well as the strategies for water and mineral nutrition and integrated pest management. The interventions must also have a strong social and entrepreneurial connotation, promoting the generation of new forms of employment for disadvantaged users. The competition will take place in English and will involve students from all over the world, evaluated by an interdisciplinary and international jury.

Background

The competition is jointly organized by the Department of Agricultural and Food Sciences and Technologies (DISTAL) of the University of Bologna and the University Center of Bioecological Architecture and Technological Innovation for the Environment (ABITA) of the University of Florence. The challenge is also supported by the Institute

for Environmental Sciences and Technologies (ICTA) of the Universitat Autònoma de Barcelona, the Agricultural Department of the University of Naples, and the Universitat Politècnica de Cartagena under the aegis of the International Society for Horticultural Sciences (ISHS), the Italian Society for Horticultural Sciences (SOI-HS), Alma Mater Foundation (FAM), the FICO Foundation, the Pilastro Development Agency (Bologna) and the Municipalities of Bologna, Belluno and Conegliano. Media partners include SilvioFritegotto.it and Edagricole New Business Media.

The Aim

The main aim of UrbanFarm2019 challenge is to design innovative urban agriculture systems that integrate the best architectural and technological innovations to produce food in urban environments. It also aims at promoting multidisciplinary and international cooperation between universities all over the world. Every team can decide to design one or more of the three projects. At the final event, one project per each location will be awarded.

The Teams

The teams with international and multidisciplinary members are very welcome. In case you will need some help to build up your team join our FB group ([Find your team – UrbanFarm2019](#)) or contact us, we are willing to help you find workmates.

Challenge Clarification

Applicable to all locations:

1. You will design a structure or redevelop the present buildings and areas in an urban and peri-urban setting.
2. You will choose crops that are essential to the connection with people in the neighborhood and city and important for your business model.
3. Your concept should be applicable and scalable on similar locations.

4. The technology innovation is one of the most important aspect of the project. You will consider the processing of the crops and may innovate in the area of urban farming.
5. You will design the plant production systems and ensure circular resource flows. The plant production systems will be appropriated to the typologies of people that will work on it.
6. The sustainability will need to address concept of circularity; contribution to the circularity of the neighborhood or city, as well as integration of recycle and upcycle strategies are a plus.
7. Food production, environmental issue and social inclusion are the key functions, and are essential to the business model(s) you develop. It is not mandatory for food production to be the main source of income for the building or to take place on a commercial scale.

Locations' Priorities

Despite the general objectives, it is good to remember the specificities of each location and therefore the aspects on which focus shall be made.

A) Belluno (Orzes primary school)

- Indoor medicinal/officinal plants cultivation.
- Activities should be involve disadvantaged users.
- You should also consider the inclusion of the desiccation room for drying plant extracts and small lab for preparing / packaging the products.

B) Bologna (Fantoni Farm)

- This location is supposed to become firstly a social and public service therefore you should adapt your project to enforce these aspects.
- The farm is located nearby the world largest food park (F.I.C.O.), visited by more than 3.5 million people every year. The business model proposed should consider this.
- Focus on innovative management and social inclusion strategies.
- Also consider strategies for marketing of food.

C) Conegliano (Ex-Zanussi area)

- Think about a space that is accessible to citizens but also productive.
- Try to efficiently link food production, public events and people in order to maximize social and economic incomes.

Rating Criteria

Rating criteria for each location will be unique and specified later. But overall the greatest attention should be paid to combination of these three criteria: **economic**, **environmental** and **social** sustainability. The team, that will be able to put together project in which all these conditions will be better combined, will achieve a greater score. To get as many points as possible please keep in mind to use innovative agricultural and architectural technologies. Total score may be up to max 100 points:

	Deadline	Evaluated material	Score	Assessors
Round 1	01/12/18	Summary + Video 1	10	Scientific committee
Round 2	15/01/19	Full project + Video 2 + Proof of concept	60	International Jury
Designers Market	14/02/19	Booth at the fair	5	General public
Grand Finale Pitch	14/02/19	5' pitch + 5' questions	20	International Jury
Online voting	14/02/19	Summary + video	5	General audience

The Jury

Members of the Jury include specialists in the field of agricultural sciences, architecture, economics, environmental and social sciences.

Members of the Jury

Augustin Rosenstiehl (Director, SOA Architects)

Main projects include La Tour Vivante (Rennes, France), Le Lamentin (Lamentin, Martinique), La Fabrique Agricole (Paris XIX, France), the French Pavillon at Milan Expo (Italy), Parc de Dondaines (Lille, France), La Ferme Musicale (Bordeaux), the Mini Ferme (Paris XIX, France), Urbanana in the Avenue de Champs Elysee (Paris VIII).

Joan Rieradavall Pons (Universitat Autònoma de Barcelona, Spain)

Professor Department Chemical, Biological and Environmental Engineering and researcher Institute of Environmental Science and Technology Universitat Autònoma de Barcelona CTA. Research in environmental technology including life cycle assessment, eco-design and green procurement, prevention and recycling of waste, energy use of the biomass and in industrial ecology of agricultural, industrial and urban systems.

Bernd Poelling (South Westphalia University of Applied Sciences, Germany)

Researcher and teacher at the Department of Agriculture at Fachhochschule Südwestfalen University of Applied Sciences in Soest, Germany. His research focus is on city-adjustment strategies and business models of urban and peri-urban farming as well as social and technological innovations of inner-city food production. Furthermore, he is involved in research about new entrants into farming and rural development. He is active in several EU and national projects and networks, e. g. proGIreg (productive Green Infrastructure for post-industrial urban regeneration), Newbie (New entrants network: Business models for Innovation, entrepreneurship and resilience in European agriculture).

Isabella Righini (Wageningen University and Research, The Netherlands)

Working as Young Researcher at WUR in the "Greenhouse Horticulture" group, with focus on climate control and energy saving strategies. Previous research and study experiences in Italy (University of Bologna), Germany (TUM School of Life Science Weihenstephan) and Spain (IRTA, Cabrils). Currently involved as tutor of the international challenge "[Autonomous greenhouse](#)", where international research groups address the combination of artificial intelligence and crop cultivation. Five international teams are trying to grow cucumbers at a distance with the use of artificial intelligence algorithm at the facilities of Wageningen University & Research (WUR).

Runrid Fox-Kaemper (Institute of Advanced Studies, Germany)

Head of research group "Built Environment" at ILS

Research Institute for Regional and Urban Development, located in Dortmund and Aachen, Germany studied architecture and urban design (Dipl.-Ing.) at RWTH Aachen University. She has got a track record in research on adaptation processes of the built environment and green infrastructure and is expert in the area of urban gardening. She chaired COST Action TU1201 "Urban Allotment Gardens in European Cities" (2012-2016) and is co-editor and co-author of the book "Urban Allotment Gardens in Europe" (Routledge, 2016), and partner coordinator of "FEW-meter", funded the Joint Programme Initiative Sustainable Urbanisation Global Initiative (SUGI) with Horizon 2020.

The Award

The challenge jackpot is of € 7500. During the Grand Finale all selected teams will compete in both a Designer's Market and by presenting their project in the form of a pitch (5 minutes presentation plus 5 minutes questions). After the pitches, one project per each location will be selected for the final run. During the final run, the three best projects will compete in a "Debating duel", where the jury will ask them a series of questions regarding their projects. The jury, based on reaction and arguments provided, will then decide for the first, second and third prize.

First prize	6000 Euros
Second prize	1000 Euros
Third prize	500 Euros

Intellectual Property Rights

The rights on the projects are entirely transferred to the challenge when submission is made. By entering the Challenge, each participant automatically agrees to grant UrbanFarm2019 the right to publish and reproduce the submitted documents, materials and information for its publicity, marketing and other external or internal purposes, in written form or by digital means. In addition, UrbanFarm2019 has the right to publish photos and videos taken during the Challenge, including the final event.

THE SCOPE OF THE WORK AND IMPORTANT DEADLINES

Registration

Since **October 15, 2018** will be possible to sign up for the challenge at this [link](#). To find more information about challenge conditions please continue reading this handbook or go to our [websites](#). Also check out section *Handy information* on our website (link [here](#)) for inspiration. Upon registration every team will receive an identification number (via e-mail the latest at November 20, 2018).

1st Round

The deadline for the preliminary selection will be **December 1, 2018**. Each team will have to send *University certificate* (or *booklet* or *receipt of University Enrolment*), an *abstract* and a *video interview* to the e-mail address: denisa.kratochvilov2@unibo.it with assigned number of the group. In the text below, you will find detailed conditions of how to prepare your material for submission which must be followed for the admission to the 2nd Round. The scientific committee will evaluate your work and decide whether you go to the 2nd Round or not.

Abstract

Short summary of your project. Maximum range of the abstract is 3 pages + 3 pages of annexes.

Interview

Make a 3-minute video as an introduction of your team and share the reason of your participation in the challenge. Send the video to denisa.kratochvilov2@unibo.it using a file sharing software (e.g. wetransfer).

2nd Round

The deadline for the submission will be **January 15, 2019**. Each team will send a *written document, 3-minute video, proof of the concept and photo of the team* to denisa.kratochvilov2@unibo.it with assigned number of the group. In the text below, you will find detailed conditions of elaboration which must be followed for the admission to the final event.

Written document

Very first condition is to create a written document which will describe the whole concept of your project. Keep in mind to mention all benefits that can your project brings. Most important part of this paper should be proof of sustainability, feasibility, reliability, attractiveness and added value for society, economics and environmental in general. Maximum range of the document is **60 pages** (including annexes).

Every paper must contain:

- *Total concept* (summary of the total concept, main aim and main innovations used in the project): max **3 pages**
- *Urban farm design*, depending on which location you will choose (architectural and agricultural solutions included in the project): max **9 pages**
- *City/District functionality* (social and environmental value of the project): max **9 pages**
- *Economic feasibility and sustainability including Business model*: max **9 pages**
- *Annexes* (including design, renders, growing technologies uses): max **30 pages**
- Recommended parameters of the paper: Font: Arial, Tahoma, Calibri, Sans Serif
- Text size: 12 (minimum 9)
- Spacing: 1,5 (minimum 1)

The written document should be **ANONYMOUS** and only reference to the identification number of the team shall be included. This is an **ELIGIBILITY** condition.

Video

Other condition of elaboration is to record a **3-minute video** about your project in general (why should your project be the one that will be implemented, what is innovative and unique about your project) and a short introduction of your team members. Send the video to denisa.kratochvilov2@unibo.it using a file sharing software (e.g. wetransfer).

Technical details of the video:

- Maximum duration: 3 minutes
- Recommended format: MP4.

Proof of concept

With proof of concept we mean: evidence, typically deriving from an experiment or pilot project, which demonstrates that a design concept is feasible.

You are asked to provide a demo of the key enabling technologies / innovations. A demo is a representation of the innovation and may take the form of e.g. a prototype, video, architectural model etc., depending on the type of innovation.

It is not required to innovate on all criteria. It is suggested to innovate at the level of the total concept, while selecting at least one (1) environmental, (2) economic, (3) social. It is possible to provide multiple proofs of the concept.

Grand Finale

Grand Finale will take place at the [NovelFarm](#) expo in Pordenone Exhibition center on **February 13-14, 2019**. The teams which will be selected by the jury will present their project via presentation.

Prototypes and posters

At Grand Finale there will be exhibition booths available for each team as an opportunity to present their projects to the public (and gain extra points). Bring in representative materials as prototype, poster, etc.

Presentation

Presentation for the finals, with summary and the greatest aim of your project should not be longer than **5 minutes** (in total). 3-minute video may also be used but total freedom on how to organize the pitch is given to the teams. Each of the teams will present their project to the public and jury and then undergo a **5 minutes** session of questions from the jury. Finalists (one per each location) will access the dueling debate for the first, second and third prize (see dedicated section).

How to get to NovelFarm?

By Car:

The exhibition center is located approximately 200 meters from 'Pordenone' highway A28 (Portogruaro-Conegliano), connected to the highway A4 (Venice-Trieste) and the highway A27 (Venice-Belluno). It is located around an hour from the borders of Tarvisio and Trieste.

PARKING: There are five parking areas adjacent to the exhibition center, for a total of over 2000 parking spaces, including here the new SOUTH parking lot by 750 stalls and car parking area for buses and campers. You could also use the bus service – shuttle that stops about 700 meters from the entrance to the pavilions.

By Train:

The train station is approximately 500 meters from the center of the Pordenone Exhibition Center. Intercity and Eurocity trains run from Pordenone to major Italian (Venice, Milan, Trieste, Bologna) and European cities. Connections to Venice every hour.

By Plane:

The International Airports of Venice, Treviso and Trieste could be reached in 45 minutes from Pordenone Exhibition Center. Daily flights connect the airports with all major Italian and European destinations. For more information, check the website of [Venice](#), [Trieste](#), [Treviso](#), [Milano](#) Malpensa and Milano Linate, [Verona](#), [Bergamo](#), [Bologna](#) Airports.

Where to stay?

[Hotel Santin](#)

For members of the participating teams the cost is (breakfast included):

- € 40.00 per night in a standard *single room*
- € 60.00 per room per night in a standard *double room*

[Hotel Villa Ottoboni](#)

For members of the participating teams the cost is (breakfast included):

- € 67.00 per night in a standard *single room*
- € 105.00 per room per night in a standard *double room*
- € 150.00 per room per night in a standard *triple room*

Payment information: reservation along with 30% deposit, rest of the price 14 days before arrival to the hotel:

Banca Intesa

IBAN: IT74Q 03069 61626 100000000701

C / c payable to: Geturhotels Srl

Causal: University of Bologna Group 13-15 / 02/2019 c / o Villa Ottoboni

[Hotel Damodoro](#)

INTRODUCTION OF THE THREE LOCATIONS

We have selected three different locations for the challenge - former primary school in Orzes (city of Belluno), Fantoni farm in Bologna and a post-industrial area in Conegliano. In the text below, you can find a short background story and our vision about each location.

Belluno - former primary school of Orzes

In 1912 technical building authority of Orzes in Belluno designed a primary school, which was implemented in years 1920-1921. Between years 1981-1982, city made a complete makeover of the school. Only supporting building elements were preserved, while new piping systems (for water and electricity), as well as roof, inner walls, floors, and windows, were replaced. Until 1992, the building hosted a primary school, but has been abandoned ever since.

Our vision of project that could take place in this location is a vertical urban farm mostly for growing spices and herbs, which could be lately used in the local cosmetics or pharmaceutical industry. A small laboratory could be related to this system, where participants could dry plants, prepare extracts and package the products.

Floor plan, photos and video

Former primary school in Orzes (city of Belluno) has three floors (underground basement, ground floor and first floor). For more details about floor plan, outside and inside photos, video of the place follow this [link](#).

Bologna – Fantoni Farm

The building is part of a farm of about 6 hectares, owned by the municipality of Bologna since the late '80s. In 2016, the farmhouse and the surrounding land have been entrusted on loan for free to local Development Agency (Agenzia di Sviluppo Pilastro/Distetto Nord Est), an association of public and private entities, with the aim of improving the quality of life and encouraging the integration and economic development of the territory. Since 2017, part of the agricultural land of the farm hosts 108 urban gardens. The building is organized on two levels: on the ground floor there is a large kitchen, on the second floor some rooms and a toilet. Next to the house, there is a stable, which can use to host more than a dozen of cattles. Finally, a third building, on the left of the stable, which served as a "workshop area", with a large workbench.

Floor plan, photos and video

For more details about floor plan, outside and inside photos, video of the place follow this [link](#).

Conegliano – Ex-Zanussi

The former “Area Zanussi” is located in the city center of Conegliano (TV) between Pittoni street and Battisti street, covering an area of 165`000 m². This place was born as a foundry in 1948, over the Zoppas family’s authority, making the industrial development of the city start. In the 1974 the industrial complex propriety was divided between Zoppas family and the new society, Zanussi. After ten years, with the evolution Zoppas-Zanussi to Electrolux group (in 1994 the only owner was Electrolux group) it began the transfer of the production out of the centre which ended in 2003. Nowadays this place is still dismissed, and years later there is an intense debate around the possible solution of the “black hole” of Conegliano. Several purposes of urban requalification have been taken into account, whose the best idea is to use the area for a urban agriculture project promoted by Bologna University International Challenge, UrbarFarm2019.

Floor plan, photos and video

For more details about floor plan, outside and inside photos, video of the place follow this [link](#).

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