International student challenge:

Urban Farm Call 2020
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PREFACE

This GuideBook was prepared for students who would like to be involved in the international student Challenge UrbanFarm2020 as a summary of all information, terms and conditions. The registration will be possible from November, 10th 2019 until December, 1st 2019.

THE CHALLENGE

The competition, dedicated to international teams of students of the bachelor and master study degrees and PhD programs 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 food in urban environments. Three buildings, identified in the municipalities of Galliera (Bologna, Italy), Lanuvio (Rome, Italy) and Longyearbyen (Svalbard Islands, Norway), will be studied and redesigned by the 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.

The Aim

The main aim of UrbanFarm2020 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 students belonging to different 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.

Requirements for participation

Teams may be composed by enrolled students (proof of enrolment of all members will be requested during registration) of the university degree courses of bachelor, master and PhD from the disciplines of Agriculture, Biology, Architecture, Design, Economics, Engineering and Social Sciences. Teams with international and multidisciplinary members are very welcome, although it is not compulsory to have different disciplines included in the team. In case you will need some help to build up your team join our FB group and introduce yourself, indicating your university background and email address, or contact us (urbanfarm@unibo.it), we are willing to help you find workmates.

Team registration

Teams registration is open from November, 10th 2019 to December, 1st 2019. Registration is mandatory for the participation to the challenge. For register the team, it is necessary fill the format at this link. To confirm your registration, you must write an email to urbanfarm@unibo.it, requesting the team code (identification number) to be used when delivering the different project materials. To find more information about challenge conditions please continue reading this handbook or go to our website.

Challenge Clarification

Applicable to all locations (every team can decide to apply to only one, two or all the three 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 technological 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 need to be appropriate to the typologies of users that will work on them.
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) GALLIERA (Bologna, Italy)

The former SIAPA area (Società Italo Americana Prodotti Antiparassitari) is located in the territory of the Metropolitan City of Bologna, in the municipality of Galliera, in the neighborhood of San Vincenzo, close to the train station. It is an area of flat conformation and has an extension of about 194’000 square meters. Today, the area is the greatest obstacle to the development of the municipality of Galliera, besides being a wound in the center of the town. An intense debate is still underway on what will host the former SIAPA area, which for years has played a fundamental role for the community of Galliera. What is certain is that this is a very large site, in a central position of the urban fabric of a town that has just over 5'000 inhabitants. The hypotheses are many: a university pole, an outlet, a logistics pole, an energy park. Requalifying this area would mean requalifying the entire town. It could be an input for the birth of new productive, commercial
activities and not only.

B) LANUVIO (Rome, Italy)

The former station ARES 118 (Regional Agency for Health Emergency) is located within the city center of Lanuvio (Rome), in an area where there are archaeological ruins from the Roman era (remains of the sanctuary Giunone Sospita). In a project presented a few years ago, which was not financed, the area was planned to be converted into an urban garden. Alternatively, the idea was launched to realize a youth center, with the possibility to offer training on 3D printing and photography through aerial unmanned vehicles. Today the space is completely unused. The future of the area has not been yet defined; however, requests have been received from private individuals to use it for the creation of vegetable gardens.

C) LONGYEARBYEN (Svalbard Islands, Norway)

In the small residential area of Nyben, in the suburbs of Longyearbyen (Svalbard Island, Norway), there is the Polar Garden, built in 2013 and now managed by the organization Polar Permaculture. In this area the organization, founded by Chef Benjamin L. Vidmar, start to grow fresh vegetables inside a dome, which was set up in 2016 and ordered from Alaska, using it with passive solar energy from end of May until end of September. People love the project and want to grow more food, and the organisation also want to increase the availability of locally grown vegetables and reduce the import of food from mainland Norway. But there is only the permission to use the dome and a lab space for now and it is a temporary permission until the organisation find a permanent location. The five locations proposed in the town of Longyearbyen may become the new sites where the Polar Garden will be hosted and enlarged, with the support of the local government agencies.
ROUNDS, SELECTIONS AND DEADLINES

The challenge is organized in three steps: Round 1, Round 2 and the Grand Finale.

Round 1

After the registration, to participate in Round 1 each team must send:

- University certificate (or booklet or receipt of University Enrolment) for all members of the team
- Abstract of the project
- Video presentation

Deadline for Round 1 is December, 1st 2019.

By December, 15th 2019, the list of the teams (up to maximum 60) that will be admitted to the Round 2 will be published on the challenge website.

In the text below, you will find detailed conditions regarding how to send and prepare the material for the submission.

Abstract

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

The abstract is a short summary of your project. The abstract must be sent both in word and pdf format, following our template. Send the abstract to urbanfarm@unibo.it by email. Before sending it, rename your file by using only your identification number. Maximum range of the abstract is 1000 words + 3 pages of annexes.

Video Presentation

Each team has to produce a 2-minutes video (MP4) as an introduction of the team in order to share the reasons of the participation in the challenge. Video must be send to urbanfarm@unibo.it using a file sharing software (e.g. wetransfer). Before sending it,
rename your MP4 file by using only your team name.

**Evaluation criteria**

For Round 1, a maximum of **10 points** will be awarded (7 for the abstract and 3 for the video).

The scientific committee of the competition will evaluate the abstract, taking it into account:

- the elements of innovation;
- the sustainability (environmental, social and economic) of the project;
- the multidisciplinarity of the project.

The elements considered for the evaluation of the videos will be:

- concept;
- innovation;
- overall quality.

**Towards Round 2 and the Grand Finale: the students rendezvous**

In order to assist the teams in the preparation of the project proposal, the University of Bologna will organize different students rendezvous, during which different skills regarding the development of the project will be improved. The schedule of the students rendezvous is the following:

- October, 25th 2019 (International student challenge URBANFARM: past, present and future);
- November, 18th 2019 (Find your team! and tips for a successful concept presentation);
- December, 11th 2019 (Overarching the three sustainability pillars).

All the rendezvous will take place at Scuderia Future Food Urban CooLab (Piazza Verdi, 2, Bologna, Italy) and streamed through videoconference in the challenge FB channel.
Round 2

The Round 2 will be open from December, 16th 2019 to January, 18th 2020.

Each team has to send:
- the project proposal;
- 2-minute video;
- proof of the concept;
- photo of the team.

Deadline for Round 2 is January, 18th 2020.

Only teams admitted to Rounds 2 can participate.

By January, 31th 2020 the list of the teams (up to maximum 15) that will be admitted to the Grand Final will be published on the challenge website.

In the text below, you will find detailed conditions regarding how to send and prepare the material for the submission.

Project proposal

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

The project proposal describes the whole concept of your project. The proposed template contains all the instructions needed for the projects’ submission. The use of the template is mandatory.

Send the document to urbanfarm@unibo.it by email. Before sending it, rename your file by using only your identification number. The document must be sent both in word and pdf format.

The final project will be composed of 7 sections, organized as follow:
- General introduction of the project (600 words)
- Agricultural section (2000 words)
- Environmental sustainability section (2000 words)
- Architectural section (2000 words)
- Economic section (2000 words)
Video

Each team has to produce a 2-minute video (MP4) addressing the 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 urbanfarm@unibo.it using a file sharing software (e.g. wetransfer). **Before sending it, rename your MP4 file using only your team name.**

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. The document must be send as PDF file to urbanfarm@unibo.it by email.

Photo of the team

Each team must provide a team photo in TIFF format.

Evaluation criteria

For Round 2, a maximum of **60 points** will be awarded (50 for the project proposal and proof of concept and 10 for the video).

The scientific committee and the international jury of the competition will evaluate the project proposal and the proof of concept, taking it into account:
- the elements of innovation;
- the sustainability (environmental, social and economic) of the project;
- the multidisciplinarity of the project

paying specific attention to the elements defined in the template.

The elements considered for the evaluation of the videos will be:
- concept;
- innovation;
- overall quality.

**Online voting**

Online voting will be available on the challenge website from **February, 1st 2020** to **February, 15th 2020**. General audience can vote online the preferred team video. **5 points** will be attributed to the team with the most voted video. The results of the online voting procedure will be published on **February, 16th 2020** on the challenge website.

**Grand Finale**

The Grand Finale will take place at the **NovelFarm** expo in Pordenone Exhibition center on **February, 19th** and **20th 2020**. The 15 teams selected after Round 2 will present their projects to the general audience and the international jury through the designers market and the pitch.

The travel and accommodation costs will be covered by the participants.

**Designers market**

At the Grand Finale, each team will have an exhibition booth to be set up in order to present their project to the public of the fair. The exhibition booth may contain prototypes of the project, posters, and promotional material of the project.

The general public will have the opportunity to vote for their favorite project during the whole day of **February 19th** and **February 20th**, until **12:00 pm**. Each person will be allowed to express only one preference. The project that will collect more preferences
will be awarded with **5 points**.
The costs for setting up the booth will be covered by the team members.

**Pitch**

The final pitch should not be longer than **5 minutes**. 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. The jury will evaluate pitches up to **20 points**, based on the quality of the projects and the presentations and the capability of the teams to stand questions.

**Final battle**

Adding up the points gained during Round 1, Round 2, online voting, designers market and pitches, **three teams** will be selected, the one with the highest score for each location. These 3 teams (one per each location) will access the final battle, a dueling debate during which the teams will answer another set of questions from the international jury. Finally, the jury, evaluating the answers provided will decide the finale ranking.

**The Awards**

The total jackpot of the challenge is € 7'500, and will be divided in three prizes as described in the table below.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First prize</strong></td>
<td>4’000€</td>
</tr>
<tr>
<td><strong>Second prize</strong></td>
<td>2’500€</td>
</tr>
<tr>
<td><strong>Third prize</strong></td>
<td>1’000€</td>
</tr>
</tbody>
</table>
**Rating Criteria**

Total score may be up to maximum 100 points.

<table>
<thead>
<tr>
<th></th>
<th>Deadline</th>
<th>Evaluated material</th>
<th>Score</th>
<th>Assessors</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Round 1</strong></td>
<td>01/12/19</td>
<td>Abstract + Video 1</td>
<td>10</td>
<td>Scientific committee</td>
</tr>
<tr>
<td><strong>Round 2</strong></td>
<td>18/01/20</td>
<td>Full project + Video 2 + Proof of concept</td>
<td>60</td>
<td>Scientific committee + International Jury</td>
</tr>
<tr>
<td>Online voting</td>
<td>15/02/20</td>
<td>Summary + video</td>
<td>5</td>
<td>General audience</td>
</tr>
<tr>
<td>Designers Market</td>
<td>20/02/20</td>
<td>Booth at the fair</td>
<td>5</td>
<td>General public</td>
</tr>
<tr>
<td><strong>Pitch</strong></td>
<td>20/02/20</td>
<td>5’ pitch + 5’ questions</td>
<td>20</td>
<td>International Jury</td>
</tr>
</tbody>
</table>

For each step, in case of equal points between 2 teams, **the team composed by students from a greater number of different universities will be preferred.**

**The Jury**

Members of the Jury include specialists in the field of agricultural sciences, architecture, economics, environmental and social sciences. Please see the dedicated [webpage](#) for further information on the International Jury composition.
AFTER THE CHALLENGE

After the challenge, each participant will receive an attendance certificate. The University of Bologna will publish the materials developed during the competition. Participants will be put in touch with the municipalities involved in the competition and the materials developed during the competition will be made free available to municipalities.

**Intellectual Property Rights**

Each team has intellectual and industrial property rights to data, designs, information, prototypes developed and submitted or transmitted under this Challenge. By entering the Challenge, each participant agrees to grant the University of Bologna, as the owner of the challenge, a perpetual, *royalty-free* and irrevocable license of use of the documents, materials and information submitted within the Challenge for research and educational purposes, including the production of scientific publications aimed to the communication and promotion of the Challenge’s results. In addition, each participant agrees to grant municipalities a license to view and use data, designs, and information submitted, exclusively for the purpose of urban regeneration covered by the Challenge. Furthermore, the University of Bologna has the right to publish photos and videos taken during the Challenge, including the final event.

**Privacy**

The data provided will be processed for the purpose of carrying out the institutional activities of the University and will be stored in accordance with the provisions of the European Privacy Regulation EU 2016/679 and D.Lgs. 196/2003 ss.mm.ii. The data will be processed by computer and not. The provision of data is required to present Ideas and Projects in the context of this challenge. Such data will be communicated and/or diffused only in execution of precise normative dispositions. The Data Controller of the data provided is Alma Mater Studiorum - University of Bologna, with registered office in via Zamboni, 33 - 40126 Bologna, in the person of the Rector as legal representative. Contact details: privacy@unibo.it; scriviunibo@pec.unibo.it
Contact details of the Data Protection Officer (RPD/DPO): privacy@unibo.it.

The Internal Responsible for the reply to the interested party is the Director of the Department of Agricultural and Food Sciences.

As data subjects, participants enjoy the rights set out in sections 2, 3 and 4 of Chapter III of Regulation (EU) 2016/679 (e.g. to ask the data controller for: access to and rectification or erasure of their personal data; to request the restriction of the processing of their personal data; to object to the processing of their personal data; to have the right to data portability).
INTRODUCTION OF THE THREE LOCATIONS

We have selected three different locations for the challenge - former SIAPA area in Galliera (Bologna), former station Ares 118 in Lanuvio (Rome) and a polar permaculture dome in Longyearbyen. In the text below, you can find a short background story and our vision about each location.

GALLIERA (BOLOGNA, ITALY) - FORMER SIAPA AREA
The former SIAPA area (Società Italo Americana Prodotti Antiparassitari) is located in the territory of the Metropolitan City of Bologna, in the municipality of Galliera, in the neighborhood of San Vincenzo, close to the train station. It is an area of flat conformation and has an extension of about 194’000 square meters. From the end of the 1940s to 1999, the plant was used for the production of plants’ protection products, in particular DDT. The establishment of the company gave a strong boost to the economy of Galliera, becoming a key element for the urban landscape and the local identity. The plant was later taken over by the chemical industry Caffaro, and continued the production until 1999 when it was abandoned. Since then, the absence of maintenance has let the structure toward a rapid process of deterioration, reaching the actual state of structural and functional degradation. Today, the area is the greatest obstacle to the development of the municipality of Galliera, besides being a wound in the center of the town.

The only access to the area is located in the south side, on Via Vittorio Veneto. On the east side the area is delimited by the railway line, on the north side there is the Riolo Canal and, finally, some cultivated fields on the west side separate the SIAPA area to the town. The area was built in the 1930s with a two-storey masonry building with the main façade on Via Vittorio Veneto, which housed a company producing tomato preserves. The building, characterized by internal courtyards, tripartite windows and barrel roofing, is the only one that still has typical architectural elements, which include it in the historical heritage of industrial archaeology. Later on, a counter-façade characterized by a series of vertical plastered bands covered in dark-colored ceramic was added to the building.

At the end of the ’40s, the SIAPA plant was established. Between the end of the 1950s and 1965, the warehouses, the systems and the water tower were built along three rows in the north side of the historic building. Between 1975 and 1980, other warehouses, silos and tanks were built on the border with the green-covered area in the north side, close to the
In the SIAPA area, there are three different zones: the first consists of buildings built in the early '60s with a vertical reinforced concrete structure with masonry walls and arched roofing; the second group consists of warehouses built in the mid-'60s with the same vertical structure but with a two-pitch roof; the third group consists of more recent warehouses, characterized by a prestressed reinforced concrete structure.

The area has been abandoned since 1999 and in 2009 some demolition works were carried out on silos, tanks, canopies and asbestos slabs were also removed.

An intense debate is still underway on what will host the former SIAPA area, which for years has played a fundamental role for the community of Galliera. What is certain is that this is a very large site, in a central position of the urban fabric of a city that has just over 5‘000 inhabitants. The hypotheses are many: an university pole, an outlet, a logistics pole, an energy park.

Undoubtedly, the need today is to convert this huge crater that splits the town in two parts. It is not an easy work, but it can have favorable conditions. For example, its optimal position: on the Bologna-Ferrara axis, close to the train station and to two provincial roads. The citizens of Galliera, many of whom have worked in the plant for decades, are tired of having this area in a state of increasing visible decay. The priority is to reclaim the site, in order to protect the health of the inhabitants. The wall structures can be totally or largely demolished, even if the facade on Via Vittorio Veneto remains a characteristic element for the territory.

Requalifying this area would mean requalifying the entire town. It could be an input for the birth of new productive, commercial activities and not only: new roads, new green areas, etc. Like many years ago, the area of the former SIAPA could once again become the engine of Galliera's economy.

**Floor plan, photos and video**

For more details about floor plan, outside and inside photos, video of the place follow this [link](#).
LANUVIO (ROME, ITALY) - FORMER STATION ARES118
The former station ARES 118 (Regional Agency for Health Emergency) is located within the city center of Lanuvio (Rome), in an area where there are archaeological finds from the Roman era (remains of the sanctuary Giunone Sospita). In particular, excavations affect the area immediately on the north side, with the presence of remains of the ancient shrine. On the west side, there is a large green area, Villa Sforza Cesarini, with a large park, Roman remains, included a restored arched structure, different services (municipal library, chill out room for listening to music, Hall of Columns for events). The area is located about 800 meters from the main square of the City of Lanuvio and the connections with public transport.
In the past, the area and the building have had different destinations: first, they were used as a day center for disabled adults, and then they became the location for the ARES 118. In a project presented a few years ago, which was not financed, it was assumed that it would be used as an urban garden. Alternatively, the idea was launched to realize a place of welcome for youth tourism, with the possibility of offering training for the use of 3D printers and photography courses with drones.
Today the space is completely unused.
As far as the architectural-urbanistic description is concerned, the building certainly needs internal and external maintenance, the roof and all the installations have to be rebuilt. It should be noted that there is also, obviously to be renovated, a roof structure that has been used to shelter the vehicles, in particular the ambulances of the 118 service.
As far as the citizens' thoughts are concerned, we do not have any reliable data on the matter, in the sense that the future of the area has not been the subject of public debate; however, requests have been received from private individuals to use it for the creation of small gardens (so-called active gardens).
It should be noted that the entire area has a masonry fence, closed with an iron gate.

**Floor plan, photos and video**

For more details about floor plan, outside and inside photos, video of the place follow this [link](#).
LONGYEARBYEN (SVALBARD ISLANDS, NORWAY) – POLAR PERMACULTURE DOME

In the small residential area of Nyben, in the suburbs of Longyearbyen (Svalbard Island, Norway), there is the Polar Garden, built in 2013 and now managed by the organization Polar Permaculture. In this area the organization, founded by Chef Benjamin L. Vidmar, start to grow fresh vegetables inside a dome, which was set up in 2016 and ordered from Alaska, using it with passive solar energy from end of May until end of September. Polar Permaculture evolved out of the need for Chef Benjamin L. Vidmar to have the freshest, locally grown product in the most northern town of Longyearbyen, while he was working as head chef of Svalbard Pub. People love the project and want to grow more food, and the organisation also want to increase the availability of locally grown vegetables and reduce the 100% import of food from mainland Norway. However, Nyben is quite far away from the town center, not many locals go there. Moreover, there is only the permission to use the dome and a lab space for now and it is a temporary permission, since Nyben is an old site and the government does not want new structure there, so organisation will need to move the dome once get a permanent location somewhere else. Polar permaculture, in agreement with the local governmental agencis, proposed five possible sites in the town of Longyearbyen (the five site are represented in the dedicated map) as the new possible locations for the Polar Garden. Students can use all their skills to find the best options to set up an urban farm in the town. They will be free to choose one of this five areas and whichever site they will select must also include space to move the dome, set up a zero-waste restaurant, and be a green space for the city.

Floor plan, photos and video

For more details about floor plan, outside and inside photos, video of the place follow this link.
PARTNERS AND SPONSORS

Organizer:

Supporter:

City Partner:

Main sponsor:

Other Partners:

Media partners:

Promoter: