

# Water & Biodiversity in an Urban Habitat

The *Baitykool* Arkiturriacollaboration for *Solar Decathlon Middle East 2018*

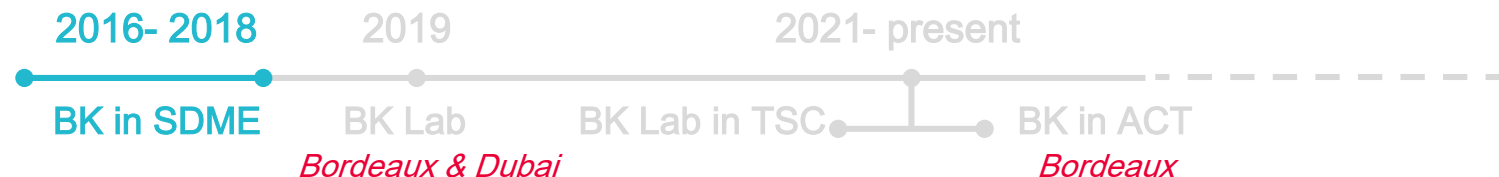
Dr. Myriame ALDUALLA, Postdoctoral researcher, *University of Bordeaux*

Mr. Axel ROCHAUD, hydrobiologist, founder of *Arkiturria*





Aerial picture of the Solar Hay where was held the first edition of the Solar Decathlon Middle East in 2018 in Dubai.  
© Solar Decathlon Middle East



Team

Academic Consortium

International Competition



**BAITYKOOL**

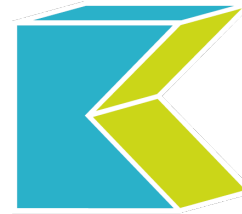


ديكاتلون الطاقة الشمسية  
SOLAR DECATHLON  
MIDDLE EAST | الشرق الأوسط  
DUBAI, UAE 2020 دبي، الإمارات العربية المتحدة

Team

Academic  
Consortium

International  
Competition



**BAITYKOOL**

université  
de BORDEAUX

I2M  
BORDEAUX

ENSAP  
BORDEAUX

nobatek  
INEF4



Arts  
et Métiers



AMITY  
UNIVERSITY



ديكاتلون الطاقة الشمسية

SOLAR DECATHLON

MIDDLE EAST | الشرق الأوسط

DUBAI, UAE 2020 دبي، الإمارات العربية المتحدة

**Establish new relationships between the university and  
various institutional and socio-economic partners**

2016- 2018

2019

2021- present

BK in SDME

BK Lab

BK Lab in TSC

BK in ACT

*Bordeaux & Dubai*

*Bordeaux*

## Mutual benefits

### For students

- Project funding
- Material goods
- Training
- Co-designing innovative BIT
- Immaterial & managerial skills



### For partners

- Experimental platform
- International exposure
- New potential clients
- Source of ideas







The Baitykool prototype's assembly in the Solar Hay, in November 2018.

© M. Ali-oualla 2018



Bird view of the competition site, in Dubai.  
© Solar Decathlon Middle East 2018

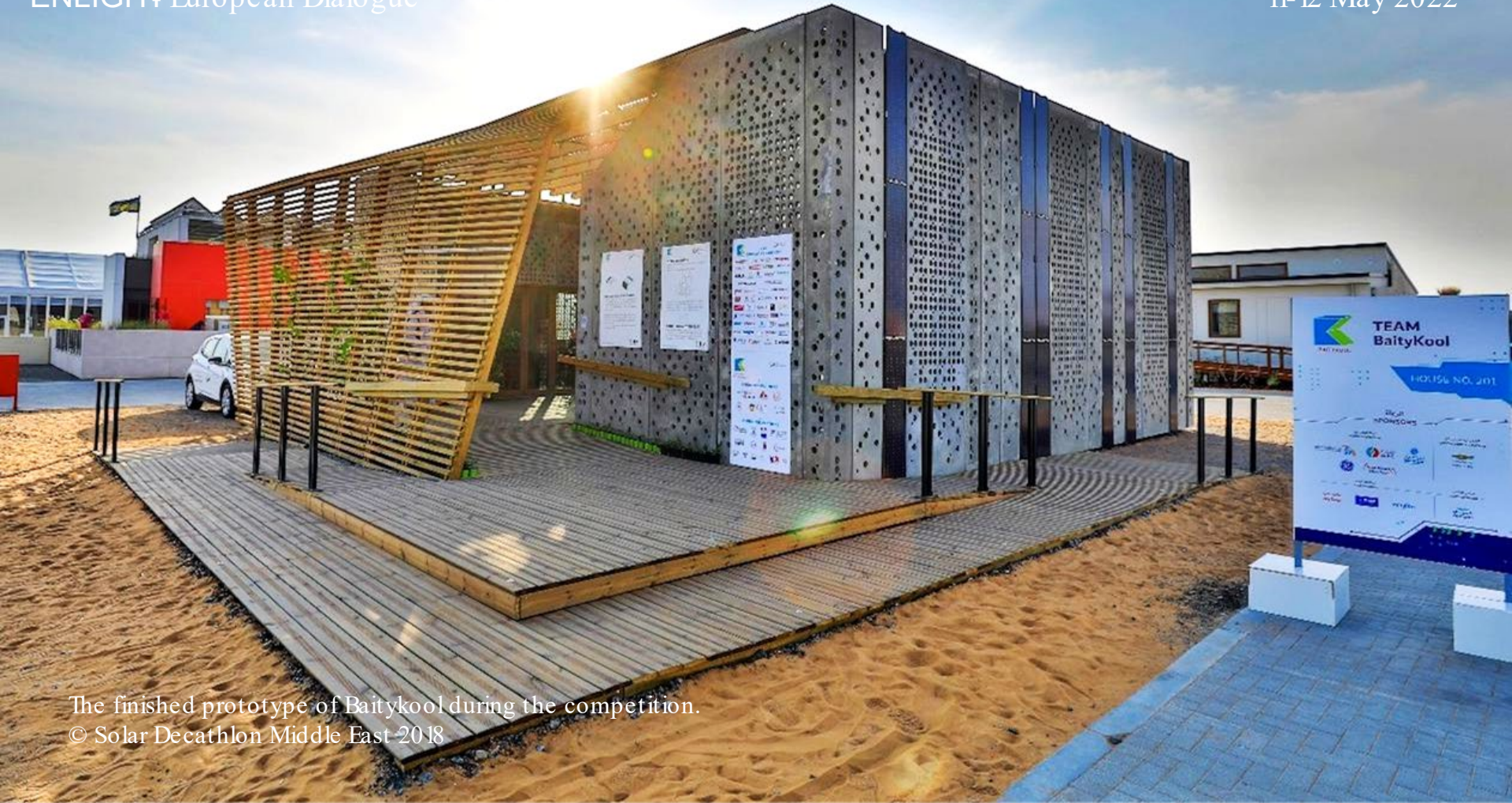




The team preparing the shipment of the pergola, from the Amity University Campus.

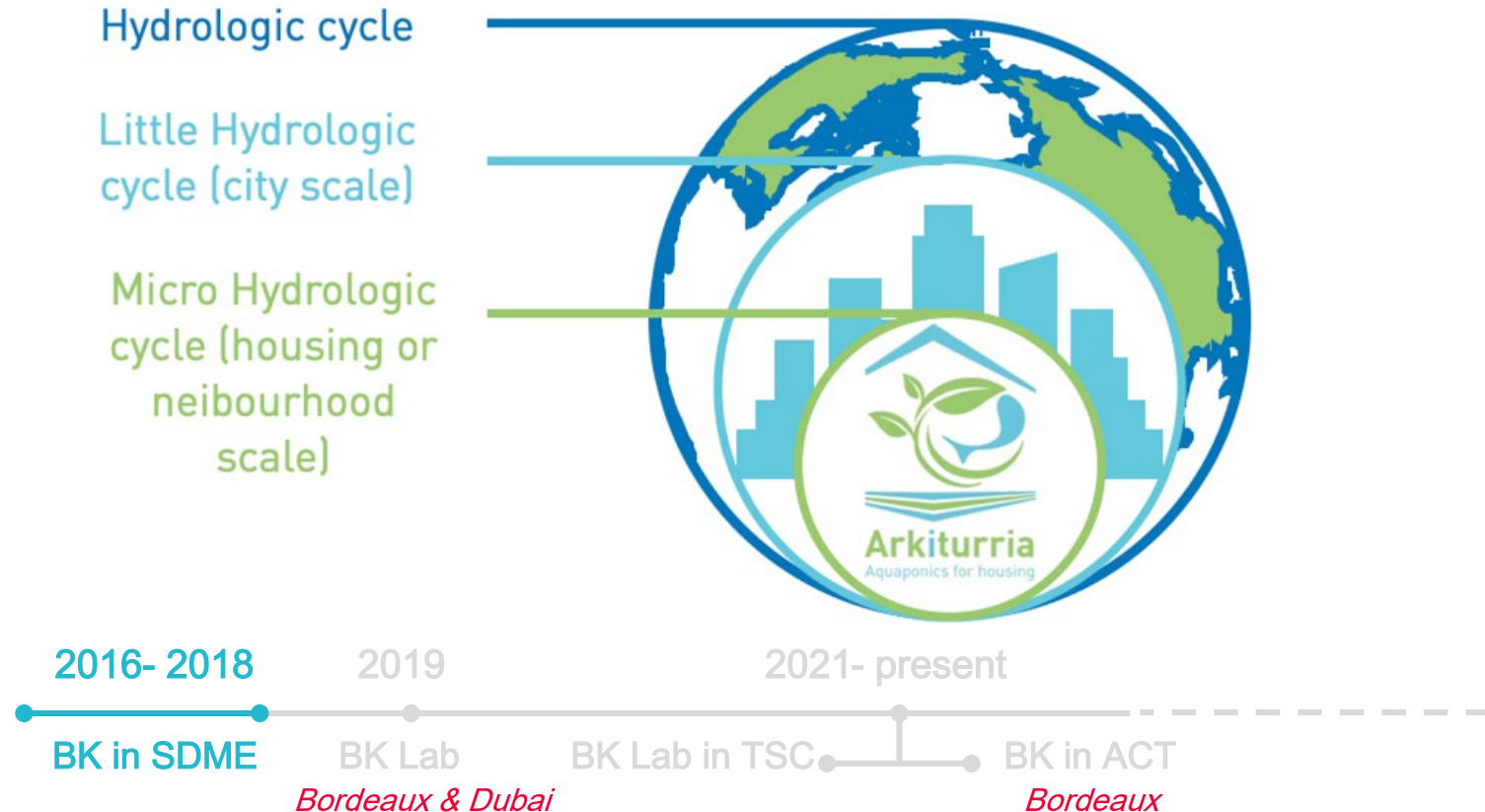
© Baitykool 2018





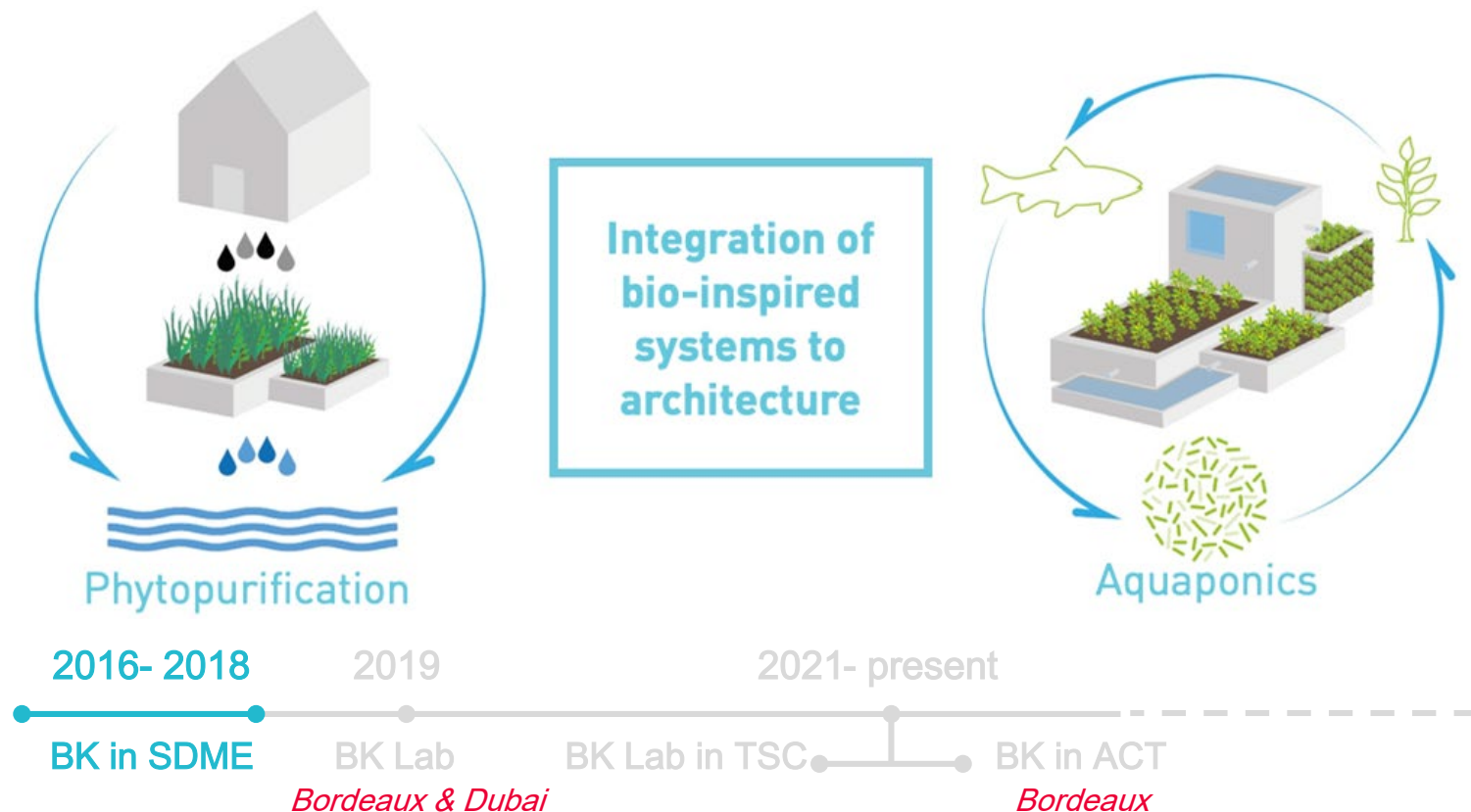
The finished prototype of BaityKool during the competition.  
© Solar Decathlon Middle East 2018

## Bio-inspired systems





## Aquaponics system & water management



## The encounter with *Arkiturria*



**Arkiturria**  
Aquaponics for housing

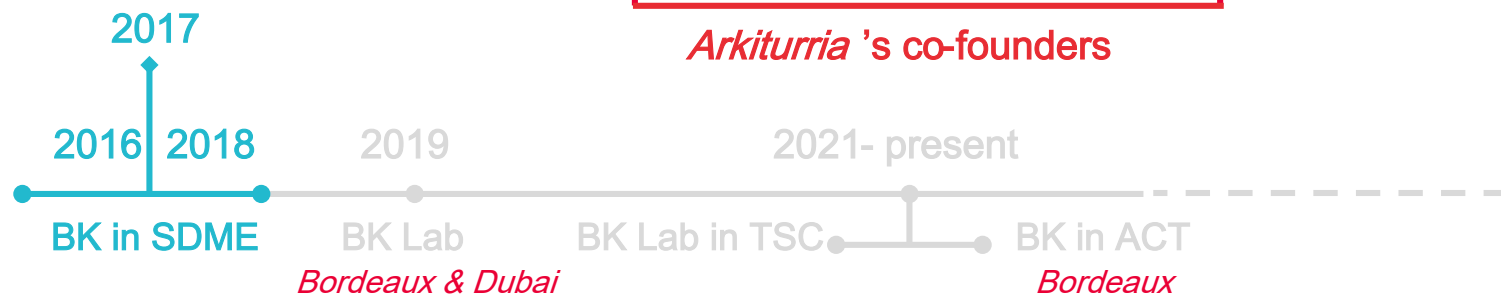


**Axel Rochaud**



**Bertrand Canigiani**

*Arkiturria* 's co-founders







View on the building-integrated aquaponics system from the courtyard.

© Baitykool 2018





Interior view on the courtyard from the corridor and through the building integrated aquaponics system.

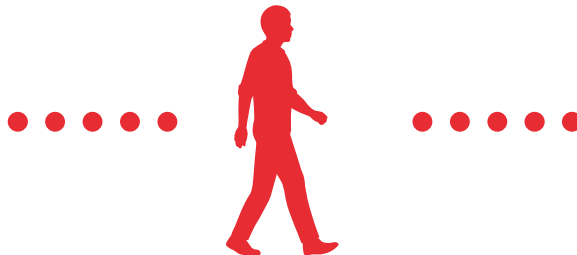
© Baitykool 2018



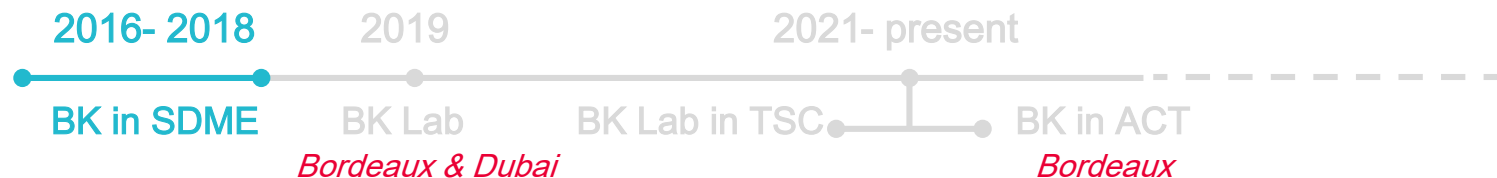
## From student to entrepreneur



Highschool



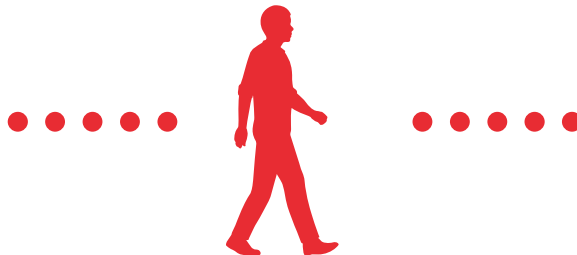
University



## From student to entrepreneur

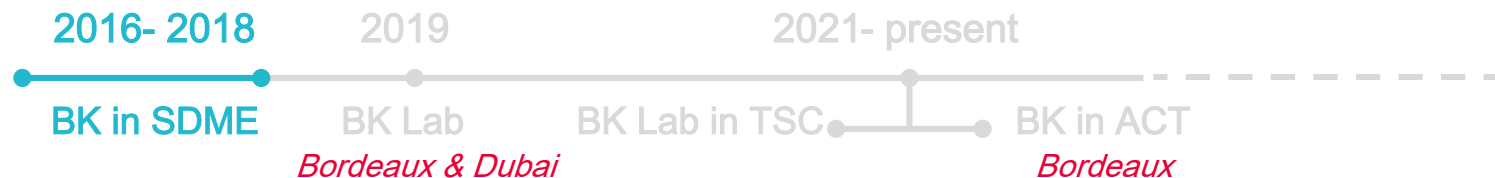


University



**BAITYKOOL**

Competition



## From student to entrepreneur



Entrepreneurship







The prototype assembly process during the competition.

© M. Ali-oualla



The manufacturing of a new aquaponics system commissioned by the French school of Dubai  
© Baityponic 2019





Starting-up the new aquaponics system commissioned by the French school of Dubai  
© Baityponic 2019





Students working on the transportation of the prototype to the competition site with the help of a logistics company.

# Baitykool *becomes* BKLAB

*Competition prototype*

*Living lab*





# Baitykool *becomes* BKLAB

*Competition prototype*

*Living lab*





BKLAB in the Sustainable City, Dubai.

© Baitykool 2022





# BK *in* ACT

*Augmented university for Campus and world Transition*

université  
de **BORDEAUX**



# BK *in* ACT

*Augmented university for Campus and world Transition*

Design astudent housing living lab = a prototype of the future campus of the city of Bordeaux





