



# SUSTAINABLE SMART CITIES

At the intersection of Nature, Technology,  
Artificial Intelligence, People and Economy

July 5th - July 17th, 2021

AN ONLINE INTERNATIONAL SUMMER SCHOOL OF APPLIED SCIENCES



# AN ONLINE INTERNATIONAL SUMMER SCHOOL OF APPLIED SCIENCES

A TWO MODULES PROGRAM ENTIRELY TAUGHT IN ENGLISH



## CONCEPT AND OVERVIEW

During the 2021 edition of the EPF Sustainable Smart Cities Summer School, the students will study how nature, people, technology, AI, and governance interrelate and can be best engaged in planning and developing sustainable smart cities.

Understanding how the ecosystems – natural, human, urban, media, and economical – work together and impact each other is the first step toward innovatively address the challenging aspects of smart cities planning and to respond to the local and existing conditions. Thus, the implementation of new technologies can be optimized, and the hot spots are identified and addressed through innovation and new directions of research.

Ideally, in sustainable smart cities, all the conceptual pillars of sustainability constitute a framework for the smart city's technological components. In reality, the planning process, application of technologies, and artificial intelligence are complex and challenged at the interface of the ecosystems, existing conditions, and infrastructure.

Which are these challenges, and how these ecosystems coexist, impact each other, and finally, the success of the project, constitutes the topic of the 2021 Smart Cities Summer School edition.

## A DYNAMIC AND STIMULATING LEARNING ENVIRONMENT

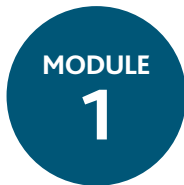
- Multicultural experience through case studies;
- Research laboratory visits and interviews with researchers;
- Networking opportunities;
- Short virtual cultural visits and field trips along with initiation in French language will complement the program.

## ACADEMIC TOPICS

### The following subjects will be covered:

- Biotechnology in smart cities' interactions.
- Sustainability in smart cities as related to disease prevention and longevity.
- Natural and urban ecosystems, biophilic practices and the related technologies in smart cities.
- Applicability of mathematics and physics of nature in smart cities' urban planning.
- Designing out waste and pollution.
- Technologies and AI applications in the context of city lifecycle and in conjunction with ecological, sociological and economic projects.
- The relation between technology, media, and society.
- The impact of technology on culture and human behavior.
- The concept of ecological economy, circular economy, and how it is applied in the smart cities.

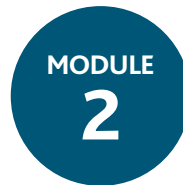
### Students can participate in one or both modules:



**July 5th to July 9th, 2021**

**AI and Engineering applied to Natural and Urban Ecosystems in Smart Cities.**

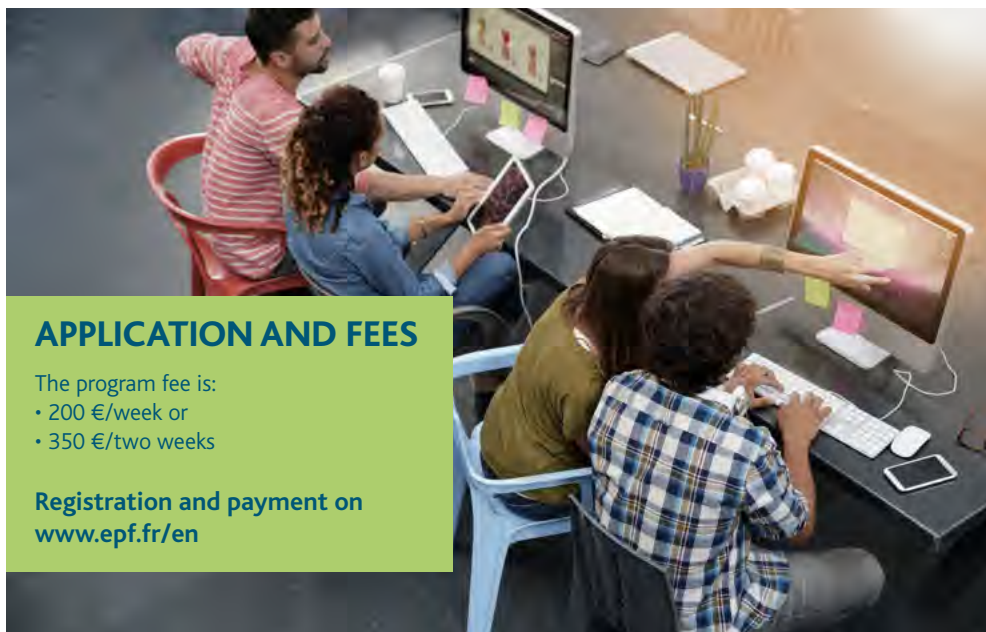
The first module will **discuss the sustainability approaches at the intersection of the natural and urban ecosystems and the city life cycle.** The students will learn how natural conditions and bio-inspired technologies and design concepts can be used and contribute to the smart city infrastructure and planning.



**July 12th to July 17th, 2021**

**AI and Engineering applied to Media, Society, and Economy in Smart Cities.**

The second module will **address the economic and human factors as part of smart cities' sustainable development.** During this week, the students will learn how circular economy and economic ecology are relating to to the social ecosystem, culture, and social stewardship in sustainable smart cities.



## APPLICATION AND FEES

The program fee is:

- 200 €/week or
- 350 €/two weeks

Registration and payment on  
[www.epf.fr/en](http://www.epf.fr/en)

## Each module includes:

- 20 hours of lectures, panel discussions, interviews, short movies, and presentations,
- 10 hours of panel discussions, interviews, short movies, virtual research laboratories visits,
- Short virtual cultural visits and field trips along with initiation in French language will complement the program,
- Quizzes,
- Final evaluation.



## APPLICATION DEADLINE

May 31st, 2021

Each  
module  
corresponds to

**2.5**  
academic  
credits\*

Note:

- the ratio between lessons and the other platforms may slightly vary,
- program content may be subject to change or cancellation based upon low enrolment,
- the academic credits are subject to be used according to the terms of each educational institution.



## PARTICIPANTS PROFILE



**Designed as a comprehensive two-week training program, the summer school encompasses two modules that can be completed independently or together.**

### PROFESSIONAL FIELDS:

Architecture, Urban Planning, Computer Sciences, Engineering, Environmental Sciences, Sociology or any related fields

#### WHO:

- students BD/MA/MS
- Ph.D. students
- young researchers and professionals

who want to improve and find new opportunities in their work and research through a comprehensive understanding of the sustainability practices applied in smart cities.

#### WHY:

Through a transversal approach, this multidisciplinary summer school will provide participants with an in-depth understanding of how sustainability pillars may be applied in smart cities and how AI, IoT, and technology may be wisely and effectively used for healthy smart cities.

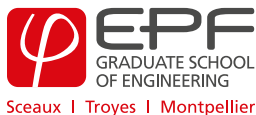
#### THE PROGRAM OFFERS OPPORTUNITIES FOR:

- in-depth understanding of sustainability practices applied to and developed for smart cities;
- learning about the latest advancements in technologies, biotechnologies, and AI for sustainable smart cities in France and internationally;
- new research projects;
- networking and virtual laboratory visits;
- professional orientation and development.

# ABOUT

## EPF - ECOLE D'INGÉNIEUR·E·S

Founded in 1925 and located in Sceaux, Troyes and Montpellier, EPF is one of the best post-secondary School for general engineering sciences. In 1991, EPF - Graduate School of Engineering - acquired the status of Public Foundation and became co-educational in 1994. **EPF offers to its 2 400 students a year (including 15% of international students) a five-year post-secondary engineering sciences curriculum.** First three years consist in a general curriculum. In 4th year, students chose among 8 different majors: Aeronautics & Space, Structures & Materials, Engineering & Health, Engineering & Management, Engineering & Digital technologies, Energy & Environment, Architectural Engineering and Data Engineering. **EPF's diplomas are accredited by the French Ministry of Higher Education and Research** and the "Commission des Titres d'Ingénieurs". EPF is a member of both the "Conférence des Grandes Ecoles" (CGE) and the "Union des Grandes Ecoles Indépendantes" (UGEI). EPF's curricula favors a faster integration into the job market with one of the highest starting salaries amongst post-secondary schools. **More than 12 000 graduated engineers from EPF** are spread out within the industry and service sectors.



**EPF - Graduate School of Engineering**

3 bis rue Lakanal - 92330 Sceaux - France - [international@epf.fr](mailto:international@epf.fr)

Let's discover the previous experience on: <http://bit.ly/SummerSchoolESTPParisEPF>