



POLITECNICO  
DI TORINO



UNIVERSITÀ  
DEGLI STUDI  
DI TORINO



UNIVERSITY OF  
MARYLAND

Dipartimento Interateneo di Scienze, Progetto e Politiche del Territorio



senseable  
city lab.

Collegio di studi di Pianificazione e Progettazione  
Extra-curricular activities funded by DIST Excellence MIUR 2018-2022

## Sustainability of urban landscapes La sostenibilità ambientale dei paesaggi urbani

The Interuniversity Department of Regional and Urban Studies and Planning (DIST) has organized an international workshop with the participation of Italian and international expert researchers. The objective is to investigate methods, tools and indexes for promoting the sustainability of cities and urban landscapes. The teaching staff is a multidisciplinary group of four departments (DIST, DENERG, DIATI and DAD) of the Politecnico di Torino, professors and researchers from the University of Maryland, the Senseable City Lab of Massachusetts Institute of Technology MIT, the Ryerson University (CA), the University of Southern Denmark SDU, and the Idiap Research Institute in Switzerland. Working within a multidisciplinary group of teachers and students, will enable more learning channels to be activated.

The cycle of conferences is divided into nine days of seminars (5 hours each on Thursday afternoon). The seminars focus on the environmental sustainability of cities and building heritage and on the infrastructure in the urban environment. Each seminar will be organized by a group of teachers who will also present some case studies. In addition, a virtual tour will be organized at the Green Pea in Turin, the first Green Retail Park dedicated to the theme of Respect. In the last seminars the students will work on an exercise and present their results.

The seminars will be held in English and will focus on the following case studies (to be confirmed): the cities of Turin, Geneva, Copenhagen, and an American city.

### Proponents

The *international joint workshop* is proposed by Guglielmina Mutani from DENERG Department. Other professors and collaborators of the *Politecnico di Torino* involved are: Grazia Brunetta, Angioletta Voghera, Ombretta Caldarice, Francesco Fiermonte from DIST Department, Roberta Ingaramo from DAD, Marco Bassani from DIATI, Valeria Todeschi, Silvia Santantonio, Simone Beltramino from DENERG. Other external professors involved are: Jerome Kaempf from Idiap Research Institute, Silvia Coccolo from Concept Consult Architects in Lausanne, Dimitrios Goulias from University of Maryland (USA), Umberto Fugiglando from Senseable City Lab, Massachusetts Institute of Technology MIT (USA), Umberto Berardi from Ryerson University (Canada), Nicola Tollin from University of Southern Denmark SDU.

The initiative is supported by the **Responsible Risk Resilience Center - R3C of Politecnico di Torino.**

### Students

The workshop aims to support students attending, or that will attend, the Master's Degree program in Territorial, Urban, Environmental and Landscape Planning in order to strengthen their skills as future territorial planners in dealing with a renewed role of the profession that requires planning the energy transition considering all the sectors, above all the civil and transport sectors. Students that are regularly enrolled, or that will be enrolled, in 2020-2021 in the Master's Degree Program in Territorial, Urban, Environmental and Landscape Planning of Politecnico di Torino, can participate to this project. Among those who will show their interest (see the



"participation, evaluations and deadlines" section), 20 students will be selected to participate in this international joint workshop. Other 15 students from other courses and from abroad can be proposed by foreign professors and these students will also have the certificate of participation.

## Economic contribution

The *international workshop* is funded as extra-curricular activity by "DIST Excellence MIUR 2018-2022" (DIST: Interuniversity Department of Regional and Urban Studies and Planning). **The funding will cover the visits that will be possible to make** (if it will be possible to do the visits, they will be inserted in the afternoons of the lectures-exercises), **the trip of foreign professors, and the publication of an open access book with the collection of the workshop results.**

## Content

"Sustainability" at city level is a very important topic to achieve involving different stakeholders such as designers but also with citizens and politicians. "Sustainability" includes energy and water savings, a rational management of energy demand and supply, the use of green infrastructures, waste reduction and materials recycling. Therefore, it is a very broad topic and students will learn more about it with practical examples and guided tours. Turin, Copenhagen and Fribourg are varied and unique examples of sustainability. In fact, in recent years, some areas/infrastructures have been redesigned according to the principles of environmental, economic and social sustainability. Furthermore, these cities have a strategic location. For example, Turin is located near Milan, France and Switzerland and at the same time the city is also closed to mountain and coastal areas, where there are different examples of sustainability, from a high-density metropolitan area to more fragile but biodiverse territories.

The goal of the workshop is to: i) investigate protection measures for nature conservation and sustainable energy development ii) assess European and National energy policies aimed to develop resilient territory and to combat the climate change; iii) quantify the impact of energy models on policies for the reuse of existing buildings and empty spaces; iv) investigate different sectors such as civil and transport in order to improve the sustainability of cities.

The international workshop proposal will enable students to see and analyze various sustainable projects: from the energy community, to the sustainable neighborhood and to the bio-compatible building; from a complex transport system, to examples of sustainable mobility, to the use of recycling materials for road construction. The many case studies identified will also be studied according to internationally recognized environmental protocols. Each group of students will present a project in the last seminar that will be discussed with the group of teachers. Finally, the inter-departmental group of teachers and the group of students coming from different study paths will allow a valuable exchange of skills with mutual enrichment. The results of this workshop will also be disseminated to students who will not be able to participate to the workshop with the open access publication of a book with materials and methods used to measure the sustainability and a collection of students' experiences.



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## Calendar (to be confirmed)

The international workshop is divided into 8 days of full immersion activity in English on the sustainability of the building heritage and road infrastructure. All lessons will be recorded in order to allow all Italian and foreign students to follow the course. The schedule of lessons will be as follows:

### → 11/3/2021: 5h

2-7 pm: lessons about

“Principles & Indicators of Sustainability” – Dr. Guglielmina Mutani,

“Place-based approach in energy models at urban scale” – Dr. Valeria Todeschi

“Energy communities” - Dr. Silvia Santantonio and Dr. Simone Beltramino

### → 18/3/2021: 5h

2-7 pm: lessons about

“Recycling materials in road construction” – prof. Marco Bassani

“Green Infrastructure: Smart Green Cities, Green Buildings & Roadway Sustainability” – prof. Dimitrios Goulias

“Toronto 2030 Platform” – prof. Umberto Berardi

### → 25/3/2021: 5h

2-7 pm: lessons about

“Urban Resilience” – prof. Grazia Brunetta e Dr. Ombretta Caldarice

“The case study of the city of Copenhagen” – prof. Nicola Tollin

### → 8/4/2021: 5h

2-7 pm: lessons about

“The case study of the city of Geneva” – prof. Jerome Kaempf and prof. Silvia Coccolo

“Senseable cities: urban big data for sustainability and inclusion” – prof. Umberto Fugiglando

### → 15/4/2021: 5h

2-7 pm: lessons about

“Green and blue infrastructure for cities. Evaluation and design” – prof. Angioletta Voghera and Dr. Benedetta Giudice

“Architecture for urban agriculture” – prof. Roberta Ingaramo and Dr. Maicol Negrello

### → 22/4/2021: 5h

2-7 pm: virtual (or real) visit to the new GreenPea in Turin: the first Green Retail Park in the world dedicated to the theme of Respect. 15,000 sqm on 5 floors: a new urban architecture, resilient and eco-sustainable building built using natural materials. The visit will finish with the former Fiat Lingotto headquarters in with the former industrial buildings and the car test track on the roof of the main building + exercise – Dr. Ombretta Caldarice and Dr. Guglielmina Mutani

### → 29/4/2021: 10h

8 am-6 pm: guided tour of Milan (plan A): the urban redevelopment plan of the area between Porta Garibaldi, the Isola district and the former railway station of Porta Nuova. If possible, in the afternoon we will visit also the new Prada district. Alternatively (plan B), a guided tour in Turin: the new Lavazza district, the Luigi Einaudi Campus and the apartment complex “25 Verde” by arch. Pia. The redevelopment projects will be analyzed, highlighting their sustainability characteristics through the LEED protocol - Dr. Guglielmina Mutani, Dr. Silvia Santantonio, Dr. Simone Beltramino

### → 6/5/2021: 5h

2-7 pm: student work with tutoring and preparation of the final work that will be presented on May 13<sup>th</sup> – Dr. Guglielmina Mutani, Dr. Valeria Todeschi, Dr. Silvia Santantonio, Dr. Simone Beltramino and Arch. Francesco Fiermonte

### → 13/5/2021: 5h

2-7 pm: presentation of final projects by students and final discussion with teachers.



## Deadlines

January 11 <sup>th</sup> 2021	Deadline for sending applications
January 14 <sup>th</sup> 2021	Publication of the ranking list
January 18 <sup>th</sup> 2021	Confirmation of the participation at the Workshop
February 25 <sup>th</sup> 2021	Coordination meeting between the teachers of the Workshop (afternoon)
March 11 <sup>th</sup> -May 6 <sup>th</sup> 2021	Lessons and exercises (afternoon)
May 13 <sup>th</sup> 2021	Presentation of final projects by students and final discussion with teachers
May 15 <sup>th</sup> 2021	Delivery or mailing of the certificate of participation
End of May	Collection of material produced during exercises and visits; book drafting begins

## Participation, evaluations and deadlines

In order to participate to the *international workshop*, it is necessary to write an **application form to be sent, by January 11<sup>th</sup> 2021** (under penalty of exclusion), to the email: [EnergyChallengesSustainability@gmail.com](mailto:EnergyChallengesSustainability@gmail.com).

The application form must contain:

- **personal data, student identification number, email address and telephone number of the candidate;**
- **certificate with exams passed with relative marks and certification of the English language;**
- **a motivation letter** illustrating the reasons for interest in this workshop in relation to the course of study and the research topic that she/he wishes to deepen in the final thesis (max 1 page).

The evaluation of the candidates made by the professors proposing the trip, will take into account the **motivation letter, the merit score of the exams taken by November 2020** (according to the regulations of Politecnico di Torino drawn up for the calculation of weighted averages) and the **level of the English language**. Additional elements that will be taken into consideration, in case of equivalent evaluations, will be the attendance and the voting of the courses of the proposing teachers.

The **selection ranking will be announced by January 14<sup>th</sup> 2021** by publication on the website of the Master's Degree Program in Territorial, Urban, Environmental and Landscape Planning ([https://didattica.polito.it/laurea\\_magistrale/pianificazione/it/news](https://didattica.polito.it/laurea_magistrale/pianificazione/it/news)) and by an e-mail communication to students selected.

The selected students should send a **confirmation of their participation by email to [EnergyChallengesSustainability@gmail.com](mailto:EnergyChallengesSustainability@gmail.com) by January 18<sup>th</sup> 2021**. Following the sending of the confirmation, it will no longer be possible to cancel the participation at the Workshop.

### Participation at the International Workshop will be recognized with 3 CFU (free credits)

Mailing list of teachers: grazia.brunetta@polito.it, angioletta.voghera@polito.it, roberta.ingaramo@polito.it, ombretta.caldarice@polito.it, nto@iti.sdu.dk, marco.bassani@polito.it, dgoulias@umd.edu, umbertof@mit.edu, uberardi@ryerson.ca, nto@iti.sdu.dk, jkaempf@idiap.ch, silvia.coccolo@epfl.ch, guglielmina.mutani@polito.it, valeria.todeschi@polito.it, santantoniosilvia@gmail.com, simone.beltramino@gmail.com, francesco.fiermonte@polito.it.