



# Sant'Anna

Scuola Universitaria Superiore Pisa

# Seasonal Schools

2020/21





## Benvenute/i alla Scuola Superiore Sant'Anna

Sono lieta di presentarvi le “**Seasonal School**” della Scuola Superiore Sant'Anna di Pisa destinate a brillanti studenti universitari e dottorandi italiani e stranieri.

Fin dalla sua costituzione, la Scuola si è distinta per essere una **learning community** in cui docenti e allievi interagiscono ed affrontano tematiche di ricerca di frontiera con un approccio interdisciplinare. La missione della Scuola è, infatti, quella di essere una istituzione pubblica di riferimento e di qualità, dove il talento è messo in campo per prendersi cura del mondo e per contribuire con responsabilità alla sua crescita culturale e alla sua sostenibilità, nel rispetto dei valori costituzionali.

Con questa missione, ci rivolgiamo agli studenti e studentesse universitari italiani e stranieri di alto merito desiderosi di mettere in gioco il proprio talento partecipando ad una Seasonal School: un corso intensivo, di una o due settimane, a carattere residenziale o in modalità on line, dedicato a tematiche di frontiera interdisciplinari.

Mi auguro di potervi incontrare presto per accogliervi nella nostra comunità scientifica ricca di stimoli, in cui la ricerca diventa la palestra di apprendimento per la formazione.

Sabina Nuti  
Rettrice

## Welcome to Sant'Anna School

I am delighted to present to you the “**Seasonal Schools**” offered by the Sant'Anna School of Advanced Studies of Pisa and designed for brilliant Italian and foreign undergraduate and graduate students.

Since its establishment, the School has distinguished as a **learning community** in which faculty and students closely interact to address frontier research topics with an interdisciplinary approach. The School's mission is indeed to be a high-quality public institution of reference, where talent is nurtured to take care of the world and to contribute with a strong sense of responsibility to its cultural growth and its sustainability, in line with our constitutional values.

With this mission in mind, we call on the gifted Italian and foreign students who are eager to bring their talent into play by participating in a Seasonal School: an intensive course, of one or two weeks, on-site or online, focused on interdisciplinary frontier research topics.

I hope I will soon have an opportunity to meet you and to welcome you into our lively scientific community, where research becomes the training ground for education.

Sabina Nuti  
Rector





## Chi siamo

**“A research university, a school of talent, for a more sustainable and inclusive world”**

Questo è il motto della Scuola Superiore Sant'Anna, che si qualifica innanzitutto come una research university riconosciuta a livello internazionale per la qualità della ricerca condotta nei suoi Istituti e laboratori.

La Scuola Superiore Sant'Anna è un istituto universitario pubblico a statuto speciale, che si propone di promuovere, a livello nazionale e internazionale, lo sviluppo della cultura e della ricerca scientifica e tecnologica nell'ambito delle Scienze Economiche e Manageriali, Scienze Giuridiche, Scienze Politiche, Scienze Agrarie e Biotecnologie vegetali, Scienze Mediche e Ingegneria Industriale e dell'Informazione.

La Scuola ha, da sempre, l'obiettivo di sperimentare percorsi innovativi nella ricerca e formazione in un contesto interdisciplinare e di continuo scambio culturale e intellettuale tra docenti ed allievi.

Da qui nascono idee innovative, sviluppate in collaborazione con università, enti, aziende e istituti di ricerca stranieri. Grazie al suo carattere internazionale, alla formazione di eccellenza e alla comunità scientifica, la Scuola Superiore Sant'Anna vuole essere punto di riferimento in Italia e all'estero.

## About us

**“A research university, a school of talent, for a more sustainable and inclusive world”**

This is the motto of the Sant'Anna School of Advanced Studies, which, first and foremost, qualifies itself as a research university, internationally renowned for the quality of the research carried out in its Institutes and laboratories.

Sant'Anna School is a special-statute public university that aims to promote, on a national and international level, the development of culture and scientific and technological research in the fields of Economic and Managerial Sciences, Legal Sciences, Political Science, Agricultural sciences and Plant biotechnology, Medical Sciences and Industrial and Information Engineering.

Since its foundation, Sant'Anna School has had the goal of experimenting innovative programmes in research and training activities, with an interdisciplinary approach and in a context of continuous cultural and intellectual exchange between faculty and students.

Innovative ideas are born and developed in this environment, in collaboration with foreign universities, institutions, companies and research centres. Sant'Anna School wants to grow its role as a point of reference in Italy and abroad, thanks to its international nature, its focus on excellence, and its active scientific community.

## Ricerca di frontiera

Affrontare i problemi con un approccio interdisciplinare e condividere le conoscenze acquisite in ambiti diversi rappresenta la nuova sfida della ricerca.

Gli Istituti e i laboratori di ricerca della Scuola si aprono agli studenti di talento per coinvolgerli nei loro progetti sulle tematiche di avanguardia per il progresso della scienza e della società.

## Frontier Research

Addressing problems with an interdisciplinary approach and sharing the knowledge acquired in different environments represents the research challenge of the future.

The School's Institutes and laboratories now open their doors to talented students and involve them in their cutting-edge research projects for the progress of science and society.

## Dove siamo

Pisa, città d'arte, di cultura e di scienza è un museo a cielo aperto famosa non solo per la bellissima Piazza dei Miracoli, patrimonio dell'UNESCO, ma anche per le sue istituzioni universitarie e di ricerca che costituiscono un centro d'eccellenza e di innovazione per la formazione e la ricerca tra i più avanzati del mondo. A Pisa hanno studiato illustri scienziati come Galileo Galilei, Enrico Fermi, Antonio Pacinotti, Carlo Rubbia e ospita tuttora talenti che danno vita ad un ambiente accademico vivace ed attivo che contribuisce ad arricchire l'esperienza universitaria degli studenti che vi entrino in contatto. Strade e piazze popolate da turisti e studenti provenienti da ogni parte del mondo la rendono una città accogliente e stimolante anche per concludere una intensa giornata di studio.

## Where we are

Pisa is a city of art, science and culture, an open-air museum that is not only famous for the beautiful "Piazza dei Miracoli", a UNESCO World Heritage Site, but also for its universities and research centres, which constitute a cluster of excellence and innovation in education and research among the most advanced in the world. Illustrious scientists such as Galileo Galilei, Enrico Fermi, Antonio Pacinotti, Carlo Rubbia studied in Pisa, and the city continues to host talents that create an active and lively academic environment, contributing to a richer university experience for all students who take part in it. Pisa's streets and squares, populated by tourists and students from all over the world, make it a welcoming and stimulating city to discover after an intense day of study!

## Rankings

**Times Higher Education World University Rankings 2020**

**1° posto** a livello nazionale su 45 istituzioni censite

**149° posto** a livello mondiale su 1.396 istituzioni censite

**4° posto** a livello mondiale sulle 414 giovani università con meno di 50 anni

**Times Higher Education World University Rankings 2020**

**1<sup>st</sup>** at the national level on a census of 45 institutions

**149<sup>th</sup>** at the international level on a census of 1.396 institutions

**4<sup>th</sup>** at world level of best young universities under 50 years old



## Cosa sono le Seasonal School

Le **Seasonal School** sono percorsi formativi di eccellenza a carattere fortemente interdisciplinare, focalizzati sulle tematiche di ricerca di frontiera della Scuola, destinati a studenti universitari iscritti ai corsi di Laurea triennale, di Laurea Magistrale e ai corsi PhD che abbiano le medesime caratteristiche di profitto degli studenti della Scuola. Le Seasonal School sono occasioni di incontro e confronto per entrare in contatto con altri studenti di merito provenienti da tutta Italia e dall'estero, da vivere "dentro" le nostre strutture e i nostri laboratori.

Le Seasonal School hanno la durata di **una o due settimane**, si svolgono preferibilmente in **lingua inglese** e possono avere **carattere residenziale** oppure svolgersi con modalità di **didattica a distanza**. Al termine del percorso, successivamente al superamento di una prova finale, è previsto il rilascio di un attestato di partecipazione con il riconoscimento dei CFU indicati nei singoli bandi.

Sono ammessi gli studenti iscritti ad un corso di laurea o di dottorato di università italiane e straniere in pari con gli esami previsti dai diversi regolamenti didattici e con una media di profitto pari almeno a 27/30 per il sistema italiano o almeno B per quello internazionale.

L'accesso alle Seasonal School prevede il possesso della conoscenza autocertificata della lingua in cui si svolgerà il corso pari o superiore al livello B2 nel caso gli studenti non siano di madre lingua.

L'ammissione alle Seasonal School è stabilita da una commissione appositamente nominata che valuta i candidati sulla base della documentazione presentata.

L'offerta completa di questo catalogo è disponibile anche in [www.santannapisa.it/it/seasonal-school](http://www.santannapisa.it/it/seasonal-school), dove è possibile informarsi in tempo reale sulle eventuali modifiche ai programmi e alle modalità di erogazione.

## What the Seasonal Schools are

The Seasonal Schools are training programmes "of excellence", which are strongly interdisciplinary, and focused on the School's frontier research topics. They are open to university students enrolled in Bachelor Degree, Masters' Degree and PhD courses, and who have the same advancement characteristics as the School's students. The Seasonal Schools are also opportunities for meetings and exchanges with other high-performing students from all over Italy as well as from abroad, to be experienced "inside" our facilities and laboratories.

The Seasonal Schools have a duration of **one or two weeks**; they are held preferably in **English** and may be held **on-site** or **online**.

Participants will be awarded a certificate of attendance at the end of the programme after passing a final examination, with full recognition of the credits (CFU) indicated in each call.

Candidates eligible for admission will be: students enrolled in a Bachelor degree or PhD course at an Italian or foreign university, and who are on track relative to the examinations required by their educational institutions and with an average examination mark at least equal to 27/30 in the Italian system, or at least B in international system. Access to Seasonal Schools requires a self-certified knowledge of the teaching language at or above B2 level if students are not mother tongue speakers.

Admission to the Seasonal Schools will be decided by a Committee, specifically appointed, which will assess the candidates based on the documentation presented with the application's submission.

The complete offering of the course catalogue is also available at [www.santannapisa.it/en/seasonal-schools](http://www.santannapisa.it/en/seasonal-schools), where information is provided in real-time on any changes to the programmes and the way in which the courses will be delivered.

## Come accedere alle Seasonal School

I singoli bandi pubblicati in [www.santannapisa.it/it/seasonal-school](http://www.santannapisa.it/it/seasonal-school) contengono tutte le informazioni sulle modalità di partecipazione e sulla documentazione necessaria per inviare la candidatura, che avviene per via telematica.

## Costi e agevolazioni

I costi e le modalità di pagamento sono indicati nei bandi delle singole Seasonal School.

La quota di iscrizione include oltre alla partecipazione alle lezioni anche l'intero materiale di studio, il vitto e l'alloggio nel caso di iniziative in presenza. Sono previste riduzioni della quota di iscrizione e delle spese di viaggio in base al proprio ISEE universitario. Ai tre partecipanti che, al termine del corso, avranno conseguito la valutazione migliore verrà erogata una borsa di studio pari a 450 euro finanziata dalla Fondazione Talento all'Opera Onlus ([www.santannapisa.it/il-talento-allopera](http://www.santannapisa.it/il-talento-allopera)).

Le Università italiane e straniere convenzionate hanno diritto a un posto riservato e alla tariffa agevolata del 10% sui costi di iscrizione.

## Gli alloggi

Gli studenti delle Seasonal School sono ospitati in accoglienti strutture residenziali dotate di tutti comfort e servizi necessari.

## How to gain access to the Seasonal Schools

The Calls for Application published at [www.santannapisa.it/en/seasonal-schools](http://www.santannapisa.it/en/seasonal-schools) contain all the necessary information on how to participate and what documentation is required in order to submit the application online.

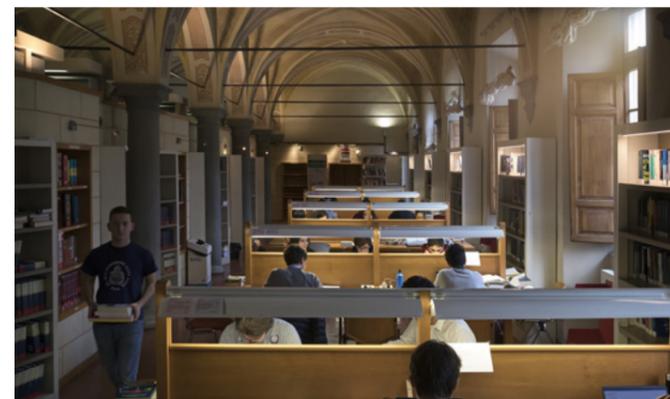
## Costs and preferential rates

The costs and methods of payment are indicated in the Calls of the individual Seasonal Schools.

Besides attending the lessons, the enrolment fee also includes all the study materials, in addition to full board and lodging in the case of on-site courses. A reduction in the enrolment fee and travel expenses is available based on the applicant's ISEE-U PARIFICATO (Equivalent indicator of the economic situation for university) for International students. A 450 € scholarship provided by Fondazione Talento all'Opera Onlus will be assigned to the three best performing participants of each course. Italian and foreign Universities with specific agreements with Sant'Anna School are entitled to reserved places and to a 10% reduction in the enrolment costs.

## Accommodation

Students attending the Seasonal Schools are housed in residential facilities equipped with every modern comfort and all the required services.



Ott/Oct 2020

Nov/Nov 2020

Feb/Feb 2021

Mar/Mar 2021

Apr/Apr 2021

Mag/May 2021

Lug/Jul 2021

Set/Sep 2021

**Photons-@  
Photonic  
Technologies  
for Sensing  
Applications**  
(oct 5<sup>th</sup> – 9<sup>th</sup>;  
12<sup>th</sup> - 16<sup>th</sup>)  
On line

**CESM  
Circular  
Economy and  
Sustainability  
Management**  
(oct 19<sup>th</sup> - 23<sup>rd</sup>)  
On line

**Issues  
on China:  
Innovation,  
Society and  
Culture**  
(nov 9<sup>th</sup>-13<sup>th</sup>)  
On line

**IAC  
InnovAction  
in health care:  
strategies,  
performance  
and data**  
(nov 16<sup>th</sup> - 20<sup>th</sup>)  
On line

**INSIDER  
Innovazioni,  
sfide, idee per  
la democrazia  
rappresentativa**  
(30 nov - 4 dic)  
In presenza

**Cibo,  
sostenibilità  
e diritti**  
(8 - 12 feb)  
In presenza

**The Ethics  
of climate  
change:  
reshaping  
responsibilities  
for present  
and future  
generations**  
(feb 22<sup>nd</sup> - 26<sup>th</sup>)  
On site

**The Responsible  
Data Society:  
Rules and  
Methods for  
AI and data  
analytics,  
beyond privacy**  
(mar 15<sup>th</sup> - 19<sup>th</sup>)  
On site

**CROSSROADS  
EU crises and  
Post-Brexit  
integration**  
(apr 12<sup>th</sup> - 16<sup>th</sup>)  
On site

**The soil – water  
and plant  
continuum for  
urban and rural  
wastewater  
phytotreatment  
and  
contaminated  
site remediation**  
(apr 19<sup>th</sup> - 23<sup>th</sup>)  
On site

**AIRONE  
Artificial  
Intelligence  
and Robotics  
in exteNded  
rEality**  
(may 3<sup>rd</sup> - 7<sup>th</sup>)  
On site

**Climate Change  
and International  
Law:  
Interdisciplinary  
Perspectives**  
(jul 12<sup>th</sup> - 16<sup>th</sup>)  
On site

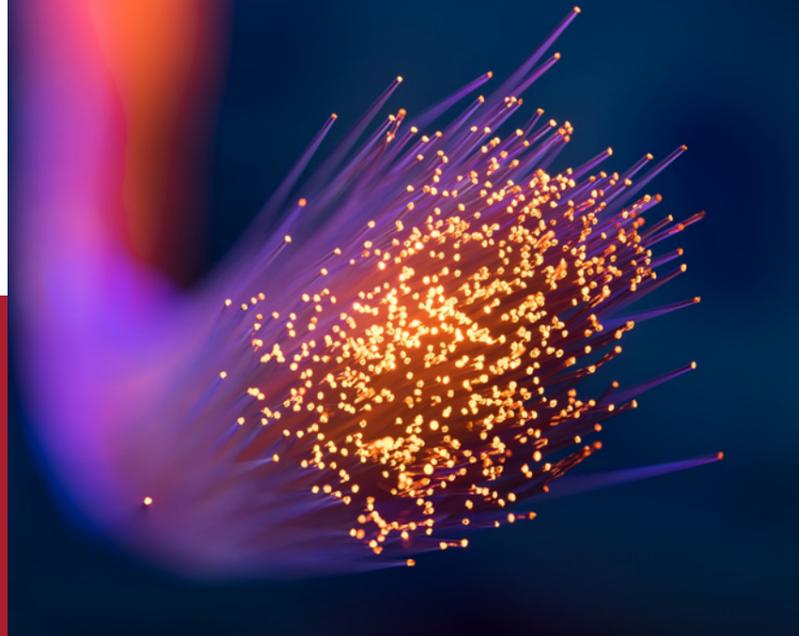
**Economics of  
Innovation and  
Technological  
Change**  
(jul 19<sup>th</sup> - 23<sup>th</sup>)  
On site

**MEDSKILL  
Development  
of MEDical  
SKILLS by  
Simulation**  
(sep 6<sup>th</sup> - 10<sup>th</sup>)  
On site



## Photons-@ Photonic Technologies for Sensing Applications

English / On line



### Learning objectives

Photonic technologies have played a key role in the last decades to address the high demand for data traffic by telecommunication networks and data centres. The industrial development of Wavelength Division Multiplexing (WDM) optical communications systems and networks in the nineties and the more recent interest in photonic integration for data centres to overcome their well-known electronic bottleneck, have driven the technology to a high level of maturity, opening the way to many other industrial fields and applications. In particular, photonic technologies are becoming extremely attractive for sensing applications in a wide range of industrial fields, including energy, oil & gas, transportation, automotive, aerospace, bio-chemical and medical applications, as well as for structural health and environmental monitoring. Optical fiber sensors and photonic sensors, in general, offer many advantages compared to conventional electronic-based sensors; immunity to electromagnetic interference, small size and weight, high multiplexing capabilities, robustness to harsh environments, as well as the fact of being completely passive at the sensing points. The Seasonal School "PHOTONS@" will introduce participants to a basic knowledge of photonic technologies to address the increasing demand from large companies and research institutions for specific applications of the technology in their own industrial and research sectors.

### Teaching methodologies

The proposed courses, which range from basic optical components to optical fiber sensor systems, imaging sensors and photonic integration for sensing will provide the students

with the basic skills to understand the industrial requirement for photonic sensing, including specific niche applications, as for example, aerospace and high energy physics, as well as applications addressing large volume market sectors, like the automotive and transportation sectors, then requiring specific technologies, such as the CMOS compatible silicon photonics platform. Students will find an interactive and cross-disciplinary learning environment with the participation of several experts from industry who will present their experience.

### Who should attend this Seasonal School

Fourth- and fifth-year Master students from different backgrounds, including information and industrial engineering, as well as physics and material science. The students are not required to have a specific knowledge of photonics, but just a basic knowledge of maths, algebra, geometry, computer programming, electromagnetism and optics, as provided by bachelor engineering and physics courses.

### Coordinator

**Prof. Fabrizio Di Pasquale**

### Key teaching staff

Prof. Antonella Bogoni  
Dr. Carlo Alberto Avizzano  
Dr. Philippe Velha  
Dr. Stefano Faralli  
Dr. Claudio Oton

**Period** October 5<sup>th</sup> - 9<sup>th</sup>; 12<sup>th</sup> -16<sup>th</sup> 2020

**Deadline for Registration** September 21<sup>th</sup> 2020



Coordinator  
Fabrizio Di Pasquale

## CESM Circular Economy and Sustainability Management Managing the transition towards a circular economy

English / On line

### Learning objectives

The main target of the Circular Economy and Sustainability Management (CESM) Seasonal School is represented by students from different backgrounds interested in the field of efficient resource management and circular economy. The CESM course explores organizational aspects and innovation facets related to all phases of the product life cycle; moreover, it provides a practical overview of how processes, decisions and business models should change in light of the new circular economy paradigm. In more detail, the CESM Seasonal School consists of 5 training modules lasting 1 day each on issues such as: circular economy assessment, circular design, strategy development & business models, and communication. Finally, a 1-day laboratory will be scheduled to apply what students have learned in all the previous lessons. Therefore, the learning objectives of the CESM encompass: helping participants to acquire a framework of useful skills to seize the opportunities in the economic shift; managing the challenges and transformation processes in a circular logic in order to encourage the practical application of the knowledge gained.

### Teaching methodologies

Students will be interactively and proactively engaged in the training process, thanks to the integration of the theoretical concepts with the practical experience under the guidance of the trainers, encompassing both academics and practitioners. The use of experiential techniques and the combination of training and laboratories will enable the participants to consolidate existing skills and increase self-awareness. The innovative teaching methods will also



rely extensively on companies' experiences in order to provide real world examples and the lessons learnt. Case studies will also be included amongst the teaching tools with the purpose of encouraging the practical application of theoretical concepts, thus bridging the gap between theory and practice.

### Who should attend this Seasonal School

Undergraduate, postgraduate and PhD students from different backgrounds (e.g. management, economics, law, political science, engineering, life sciences) who are interested in understanding how to manage the transition process towards the circular economy paradigm.

### Coordinator

**Prof. Marco Frey**

### Key teaching staff

Prof. Fabio Iraldo  
Prof. Francesco Testa  
Dr. Tiberio Daddi  
Dr. Natalia Gusmerotti  
Dr. Eleonora Annunziata

**Period** October 19<sup>th</sup> - 23<sup>th</sup> 2020

**Deadline for Registration** September 30<sup>th</sup> 2020



Coordinator  
Marco Frey

## Issues on China: Innovation, Society and Culture

English / On line

### Learning objectives

The Seasonal School is a five-day dynamic and intensive program, that offers an introduction to economic, social, political and legal aspects of modern China through the lens of leading research activities promoted by Sant' Anna Institutes.

Participants will have the opportunity to develop the necessary background to comprehend some of the major China's issues, while emphasizing the traditional and modern roots of contemporary China.

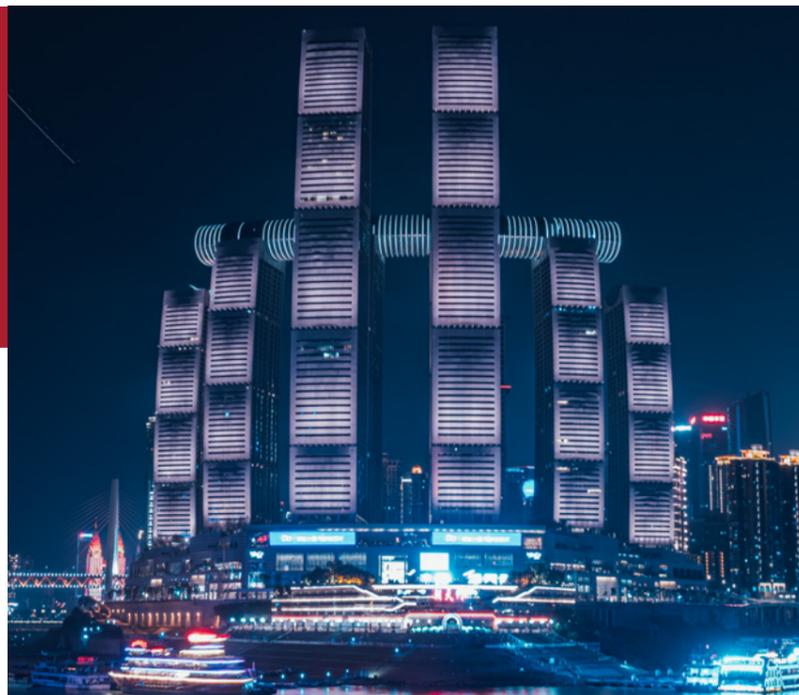
The seasonal school aims at promoting the knowledge of the role of People's Republic of China, within the new global order and its role in the reconfiguration of international relations from different perspectives.

More specifically, the 40 hours-long school will be characterized by a strong interdisciplinary approach and will be focused on the encounter with people, countries, way of thinking and systems connected with China. In other words, in order to guarantee the pluralism of disciplinary and intellectual perspectives, the seasonal school will explore aspects related to the phenomenon of tourism, geopolitical and international relation issues, technology transfer and legal systems.

The Seasonal School is dedicated to the memory of the former Consul General of Italy in Chongqing, Filippo Nicosia.

### Teaching methodologies

Lectures, led by experts from Sant'Anna faculty and distinguished specialists from the academic and business environment tied to China, will be complemented by an introductory course of



basic Chinese language and culture offered by professional native-speaking instructors. In this interactive and cross-disciplinary learning environment, students will have the chance to attend frontal lessons, Q&A sessions and workshops.

### Who should attend this Seasonal School

Highly motivated students (Undergraduate, Postgraduate) from any university degree programme (e.g. law, political science, life sciences, medicine and engineering) are welcome to take part in this online Seasonal School.

### Coordinator

**Prof. Alberto Di Minin**

### Key teaching staff

Prof. Nicola Bellini

**Period** November 9th - 13th 2020

**Deadline for Registration** October 15<sup>th</sup> 2020



Coordinator  
Alberto Di Minin

## IAC InnovAction in health care: strategies, performance and data management

English / On line

### Learning objectives

The IAC Seasonal School will cover specific research topics underpinning the public health care system, with an emphasis on the analysis of real world evidence and data for a better use of assets and resources to achieve better outcomes and improved efficiency of care, as well as regarding the recent managerial implications of the recent coronavirus disease 2019 (COVID-19) pandemic. Students will explore tools and frameworks related to data management, business and process reengineering, innovation strategies, decision-making processes and performance assessment in the field of health care services adopting both a theoretical and empirical approach. Moreover, innovative solutions to boost patients and community participation, engagement and co-production in the care process will be discussed and analysed in different care settings. Students will be able to discuss challenging research issues, such as: how to measure and assess the performance of the care given; what are the possible data driven solutions to cope with variation; how to develop innovative interventions based on patients-centred care; what are the main levers to improve the quality and appropriateness of care and how to address the challenges facing the pandemic crisis from the organizational perspective. Finally, a different research methodological approach will be discussed.

### Teaching methodologies

The IAC Seasonal School is a full online web-based programme. Participants will be asked to join the online class once or twice a week. A mix of lecture-based and laboratory classes will

be developed by professors and researchers. Participants will be actively engaged through a balanced mix of interactive theoretical lectures and simulations, debates and discussions on real case studies. Moreover, facilitators will be available in order to foster the interactions and improve the discussion during the lab classes.

### Who should attend this Seasonal School

The Seasonal School is open to postgraduate and PhD students from various backgrounds interested in the field of health care management.

### Coordinator

**Dr. Sara Barsanti**

### Key teaching staff

Prof. Sabina Nuti, Prof. Milena Vainieri, Prof. Chiara Seghieri, Prof. Michele Emidin, Prof. Claudio Passino, Dr. Nicola Bellè, Dr. Paola Cantarelli, Dr. Francesca Ferrè, Dr. Anna Maria Murante, Dr. Federico Vola

**Period** November 16<sup>th</sup> - 20<sup>th</sup> 2020

**Deadline for Registration** October 30<sup>th</sup> 2020



Coordinator  
Sara Barsanti



## INSIDER

### Innovazioni, sfide, idee per la democrazia rappresentativa

#### I Parlamenti tra innovazioni e “riduzioni”

#### Obiettivi formativi

La Seasonal School offrirà ai partecipanti una formazione specifica sulle principali tematiche d'attualità concernenti i diversi aspetti della rappresentanza politica e di diritto delle assemblee elettive, in una prospettiva marcatamente interdisciplinare.

Si prevedono lezioni e incontri di ambito prevalentemente giuridico e politologico ma aperti al confronto con le altre scienze sociali e sperimentali, necessario per comprendere il fenomeno nella sua interezza. Particolare attenzione sarà data ai profili relativi all'utilizzo dei big data e alla comunicazione politica.

I partecipanti potranno approfondire i diversi aspetti della rappresentanza politica sui quali impattano i mutamenti di paradigma in atto; tra questi, in particolare, quello che porta alla riduzione del numero dei componenti delle assemblee elettive. In quest'ottica, dunque, sarà dato particolare spazio alle prospettive di riforma che vanno in questo senso, approfondendo la connessa ridefinizione ed il ripensamento (almeno parziale) delle funzioni.

#### Metodologie didattiche

Lezioni frontali, incontri seminariali, tavole rotonde e metodi innovativi come l'organizzazione di una simulazione di procedimento legislativo. È previsto inoltre un viaggio d'istruzione a Roma con visita alle sedi di Senato e Camera, assistendo a sedute dell'Aula e organizzando ulteriori incontri con consiglieri parlamentari e professionisti del settore.

#### A chi si rivolge

Iscritti a Lauree di I Livello, a Lauree magistrali o ad un dottorato di ricerca (d'impianto non

necessariamente giuridico o politologico) interessati alle tematiche oggetto del corso.

#### Coordinatore

**Prof. Emanuele Rossi**

#### Staff docente

Prof. David Natali  
Dott.ssa Francesca Biondi  
Dott. Edoardo Bressanelli  
Dott. Luca Gori,  
Dott. Fabio Pacini  
Dott.ssa Elena Vivaldi

**Periodo** 30 Novembre - 4 Dicembre 2020

**Scadenza iscrizioni** 6 Novembre 2020



Coordinatore  
Emanuele Rossi



## Cibo, sostenibilità e diritti

#### Obiettivi formativi

La Seasonal School introdurrà i partecipanti al tema della *food governance*, conducendoli attraverso un percorso multidisciplinare teso ad esplorare la complessità dei sistemi agroalimentari moderni al fine di sviluppare competenze in grado di promuoverne il cambiamento verso la sostenibilità ambientale e l'inclusività sociale.

Il programma ha l'obiettivo di fornire la capacità di orientarsi nelle politiche e regole multilivello che riguardano il cibo, alla luce degli obiettivi di sviluppo sostenibile con particolare attenzione alla sicurezza nutrizionale, alla conservazione dell'ambiente e della biodiversità, al tema dei cambiamenti climatici, alla frammentazione dei sistemi alimentari e al commercio mondiale, al ruolo dell'innovazione digitale e della *blockchain* nel settore agri-food. Esso inoltre darà attenzione alle principali questioni scientifiche legate ai modelli di agricoltura e ai possibili impatti sulla salute delle filiere alimentari.

#### Metodologie didattiche

La Seasonal School permetterà di sperimentare un percorso formativo innovativo (learning by doing nelle attività laboratoriali; active-learning e interdisciplinarietà anche con sessioni in codocenza di professori di scienze sociali e sperimentali), basandosi sul trasferimento dei risultati delle attività di ricerca che da anni si svolgono alla Scuola sui temi del cibo e della sostenibilità. L'interdisciplinarietà è un elemento caratterizzante il corso e attiene sia al coinvolgimento nella docenza di competenze di scienze sociali (diritto, economia e management) e di scienze sperimentali (agraria e medicina); sia alla formazione dei destinatari del corso

che provengono da diverse aree di studio, con l'obiettivo di trasmettere la necessità e il valore aggiunto di imparare a lavorare oltrepassando i confini tra le diverse discipline per agire con più efficacia nel campo dei sistemi alimentari sostenibili.

#### A chi si rivolge

Iscritti a Lauree di I Livello, a Lauree magistrali o ad un dottorato di ricerca provenienti sia da aree di scienze sociali che da aree di scienze sperimentali.

#### Coordinatrici

**Prof.ssa Eloisa Cristiani**  
**Prof.ssa Mariagrazia Alabrese**

#### Staff docente

Dott.ssa Francesca Capone  
Dott.ssa Natalia Gusmerotti  
Prof.ssa Laura Ercoli  
Prof. Vincenzo Lionetti  
Dott. Andrea Saba

**Periodo** 8 - 12 Febbraio 2021

**Scadenza iscrizioni**

10 gennaio 2021



Coordinatrice  
Eloisa  
Cristiani



Coordinatrice  
Mariagrazia  
Alabrese





## The Ethics of Climate Change Reshaping Responsibilities for Present and Future Generations

### Learning objectives

The Seasonal School aims at providing compact and focused training on the ethical, social, political and economic challenges of “climate change”. It will address four main topics: features and specific challenges of climate change, intergenerational implications of climate change mitigation strategies, models of individual and collective responsibility, the global distributive problem related to burdens and benefits of pollution.

The Seasonal School participants are expected to acquire, within a comprehensive ethical framework, a strong theoretical expertise and an effective pragmatic ability in dealing with questions of justice, both among contemporaries and different generations.

### Teaching methodologies

The method of study will be intersectional and strongly interdisciplinary, thanks to the contribution of several internationally known scholars and experts. The Seasonal School will enable students to approach climate change by considering the inequalities existing within the present generation, asymmetries of power on a global level and indirect reciprocity between the different generations, through a balanced mix of interactive theoretical lectures and laboratories centred on role-playing and simulations.

### Who should attend this Seasonal School

We welcome students of all levels of university education, from Bachelor's Degree to PhD. The Seasonal School is open to philosophers, social and hard scientists, technicians and persons employed in both the public and private sectors who wish to study theoretical

and practical aspects of climate change, mitigation policies and design, with specific reference to the different levels (local, global, intergenerational) of the stakeholders involved.

### Coordinator

**Prof. Alberto Pirni**

### Key teaching staff

Prof. Roberto Buizza  
Dr. Francesca Capone  
Prof. Michele Di Francesco  
Prof. Franco Flandoli  
Prof. Barbara Henry  
Prof. David Natali

**Period** February 22<sup>nd</sup> - 26<sup>th</sup> 2021

**Deadline for Registration** February 3<sup>th</sup>, 2021



Coordinator  
Alberto Pirni



## The Responsible Data Society: Rules and Methods for AI and data analytics, beyond Privacy

### Learning objectives

The digital economy harnesses the power of big data, modern high computing capacity, Artificial Intelligence, and innovation. It also leverages their interconnection allowing information technology to mediate all human activities. These innovations should be properly framed within the existing legal and ethical framework, in order to strike the right balance between the protection of fundamental rights and freedoms and the need to preserve the regulatory flexibility necessary for all market players to enjoy and be empowered by the wealth of big data in an open society. Data protection plays a significant role for these purposes. Although the legal and ethical framework of the data society is increasingly central to the international debate and for future jobs, there are few opportunities for would-be jurists, technologists and social scientists to acquire the necessary skills to govern the interaction between technological innovation in data science and the regulatory and fundamental rights protection framework. The Responsible Data Society School intervenes on this gap, with the aims of enabling students: i) to develop a responsible approach to Machine Learning techniques, data mining, algorithms, AI in technical, as well as social analytics activities; ii) to be aware of the interaction between technologies and regulatory standards; iii) to develop, by design, a robust methodology to comply with the applicable legal framework.

### Teaching methodologies

Students will find an interactive and cross-disciplinary learning environment to enhance theoretical and empirical skills to strengthen problem solving, as well as strong decision



Legality attentive data science for all

making attitudes within various scenarios. Several experts coming from e.g. research & innovation, industries, policy-making, and public authorities will participate in the programme addressing the identified challenges from a multidimensional perspective. This will help to improve transversal skills, for example, strategic communication, teamwork and leadership.



Coordinator  
Giovanni Comandé

### Who should attend this Seasonal School

Undergraduate, postgraduate and PhD students from different backgrounds (e.g. law, economics and political sciences, life sciences, computer science, physics, and engineering) who are interested in understanding the legal and ethical thorns and twists of big data and AI.

### Coordinator

**Giovanni Comandé**

### Key teaching staff

Dr. Denise Amram  
Prof. Maria Gagliardi  
Prof. Caterina Sganga

**Period** March 15<sup>th</sup> -19<sup>th</sup> 2021

**Deadline for Registration** January 31<sup>st</sup> 2021



## Crossroads

### Eu crises and post-Brexit Integration

English / On site

#### Learning objectives

The Seasonal School aims to offer a critical, multi-disciplinary assessment of the current state of the European Union (EU) following the withdrawal of the United Kingdom (UK). Both the EU and the UK will enter uncharted territory in 2021 with Brexit and the end of the transition period. As this is the first case of withdrawal of a member state in the history of integration, different, alternative scenarios are all possible: from a 'domino effect' on other countries, reinforcing the wave of authoritarian populism in Europe, to the consolidation of a more differentiated Union. The multifaceted crisis of the EU, confirmed and amplified by the coronavirus epidemic, will be used to broadly reflect on the process of integration and key policy issues. By the end of the Seasonal School, students will be expected to:

- 1) Critically analyse the key developments in the EU in the light of Brexit and other recent crises, and their multi-level and transnational implications;
- 2) Gain an advanced understanding of EU politics, public policy and public and comparative law;
- 3) Acquire transferable skills to work in EU institutions, think-tanks, interest groups, and in academia.

#### Teaching methodologies

Teaching in the Seasonal School will be research-led, with the teaching staff consisting of scholars regularly publishing in leading journals and contributing to academic debates in the field. Classes will be a mix of lectures – aimed at enhancing the students' knowledge about the key events and consequences of

the process of Brexit – seminars and case-studies – where students will tackle key policy challenges (problem-based learning), by applying the concepts and using the tool-kit learnt in the module. EU practitioners will lead the case studies, bringing their own practical experience to the classroom.

#### Who should attend this Seasonal School

Advanced Undergraduate, Postgraduate taught (Master) and PhD students with a background in the humanities or social sciences.

#### Coordinators

**Dr. Edoardo Bressanelli**  
**Prof. Giuseppe Martinico**  
**Prof. David Natali**

#### Key teaching staff

Prof. Luca Sebastiani  
Prof. Laura Ercoli

**Period** April 12<sup>th</sup> - 16<sup>th</sup> 2021

**Deadline for Registration**  
March 1<sup>st</sup> 2020



Professor  
Edoardo Bressanelli



Professor  
Giuseppe Martinico



Professor  
David Natali

## The soil – water and plant continuum for urban and rural wastewater phytotreatment and contaminated site remediation

English / On site

#### Learning objectives

The Seasonal School will introduce participants to the theory and practice of phytodepuration techniques for urban and rural wastewater treatment and the subsequent reuse for irrigation purposes. It will also address the use of the soil - water and plant continuum to remediate contaminated sites. Regulatory and social issues will also be examined in the use of nature-based solutions to improve water quality. At the end of the course students will acquire knowledge and skills that will enable them to identify the most effective phytoremediation techniques in order to resolve the most common wastewater treatment and contaminated site issues.

#### Teaching methodologies

The course is based on 20 hours of theoretical lessons and 11 hours of laboratory exercises. A 4-hour workshop with companies, institutions and scientists will help the participants to become familiar with real cases and applications. Another 5 hours will be dedicated to visiting phytodepuration facilities.

#### Who should attend this Seasonal School

The Seasonal School is designed for early career scientists (MSc students, PhD or post-doc students), technicians from public authorities (water authorities, river basin authorities, environmental protection agencies) and geo-environmental companies, water utilities operators with a degree in engineering, environmental sciences, biology, earth sciences, agricultural engineering, or chemistry.

#### Coordinator

**Dr. Rudy Rossetto**

#### Key teaching staff

Prof. Luca Sebastiani  
Prof. Laura Ercoli

**Period** April 19<sup>th</sup> - 23<sup>rd</sup> 2021

**Deadline for Registration** February 15<sup>th</sup> 2021



Coordinator  
Rudy Rossetto



## AIRONE Artificial Intelligence and Robotics in exteNded rEality

English / On site

### Learning objectives

In the forthcoming decade eXtended Reality (XR) technologies, i.e. Virtual, Augmented and Mixed Reality, and collaborative robots will become ubiquitous. Then, the XR combination with robots and human-centric Artificial Intelligence will enable distributed environments to be developed where humans, robots and virtual entities coexist, and may become the sentient embodiment of remote human operators. The AIRONE School will cover specific research topics underpinning this paradigm shift affecting technology, perception and interaction.

By the end of the AIRONE School, participants will have learnt the main aspects of eXtended Reality, the basics for the design and control of collaborative and wearable robots for immersive telepresence, and the fundamentals of machine learning and AI applied to Robotics and artificial vision systems.

### Teaching methodologies

The AIRONE initiative will deliver both lectures and hands-on lab sessions. Key teachers from the international research community will offer AIRONE participants a live experience of research at the intersection of Robotics, Artificial Intelligence and XR.

### Who should attend this Seasonal School

Undergraduate, postgraduate and PhD students in engineering and related disciplines who are interested in research and technology and in exploring the potential of combining eXtended Reality, Robotics, and Artificial Intelligence.

### Coordinator

**Prof. Massimo Bergamasco**

### Key teaching staff

Prof. Antonio Frisoli,  
Dr. Marcello Carrozzino,  
Prof. Carlo Alberto Avizzano,  
Prof. Massimiliano Solazzi,  
Dr. Franco Tecchia

**Period** May 3<sup>rd</sup> - 7<sup>th</sup> 2021

**Deadline for Registration** April 19<sup>th</sup> 2021



Coordinator  
Massimo  
Bergamasco



## Climate Change and International Law: Interdisciplinary Perspectives

English / On site

### Learning objectives

The main focus of the Seasonal School will be on the international legal context of climate change and on global governance efforts addressing this phenomenon. However, in light of the complexity of climate change and of the intrinsic need to adopt an interdisciplinary perspective, the Seasonal School will provide the participants with the opportunity to acquire also a basic knowledge of the scientific, economic and ethical aspects related to climate change. Notably, the legal perspective itself will be characterized by a multidisciplinary approach in order to reflect not only on the evolution of the specific body of international climate change law, but also on the role of other areas of law such as human rights law, public comparative law, agricultural law and migration law.

### Teaching methodologies

The Seasonal School will be characterized by a unique combination of lectures and interactive sessions. The main goal of such an innovative approach is to provide the participants with the opportunity to apply to a practical scenario the theoretical skills acquired during the frontal sessions. Each interactive session, held in the afternoon at the end of three days out of five, will be coordinated and delivered by the lecturers, encompassing both academics and practitioners, present during the day. The principal characteristic of this Seasonal School, which makes it stand out from other initiatives offered by foreign Universities and institutions, is the strong focus on the importance of integrating theoretical and practical sessions.

### Who should attend this Seasonal School

The Seasonal School's main target is represented by recently graduated and undergraduate students who have completed at least a Bachelor Degree. In the case of students enrolled in a 5 years Law Degree the participation is reserved to those who are attending the fourth and fifth year. However, given the fact that the summer school will fill an important gap in the current didactic offer of the Italian Universities as well as of many foreign academic institutions LLM and Master students are also encouraged to apply.

### Coordinator

**Dr Francesca Capone**

### Key teaching staff

Prof. Mariagrazia Alabrese  
Dr. Francesca Biondi Dal Monte  
Prof. Eloisa Cristiani  
Prof. Giuseppe Martinico  
Prof. Alberto Pirri  
Prof. Andrea de Guttry

**Period** July 12<sup>th</sup> - 16<sup>th</sup> 2021

**Deadline for Registration**  
May 20<sup>th</sup> 2021



Coordinator  
Francesca  
Capone



## Economics of Innovation and Technological Change

### Learning objectives

The Seasonal School programme on “Economics of Innovation and Technological Change” addresses both the theoretical and the empirical underpinnings of the economics of innovation and technical change, as well as recent debates at the frontier of the field. The topics covered include: technological paradigms and trajectories, innovation and firm strategies, sectoral patterns of innovation, analysis of patent data, innovation and economic growth, innovation and competitiveness, innovation and intellectual property rights. The programme also offers an overview of statistical methods and techniques aimed at analysing relevant empirical data for innovation studies. Students will gain frameworks and tools to understand key-issues in this field: how do we measure innovation? How do firms exploit innovation in different sectors? What is the connection between intellectual property rights regimes and innovation? Which are the most effective tools to foster innovation in different contexts?

### Teaching methodologies

Students will engage with and will learn from full-time professors from the Sant'Anna Institute of Economics through a mix of lecture-based and laboratory classes.

### Who should attend this Seasonal School

Advanced undergraduate and Master's students, notably in Economics and Social Sciences.

### Coordinator

**Dr. Daniele Moschella**

### Key teaching staff

Prof. Giovanni Dosi  
Prof. Arianna Martinelli  
Prof. Andrea Mina  
Prof. Alessandro Nuvolari

**Period** July 19<sup>th</sup> - 23<sup>th</sup> 2021

**Deadline for Registration**  
May 22<sup>nd</sup> 2021



Coordinator  
Daniele Moschella



## MEDSKILL

### Development of MEDical SKILLs by Simulation

### Learning objectives

As of today, the need for practical skills and problem-solving capabilities remains largely unmet in many medical school curricula across Europe. In fact, Medical school education remains largely anchored to a traditional paradigm of learning a discrete amount of information about pathophysiology principles and the descriptions of illnesses, without worrying about developing the skills necessary to work confidently “on the patient”. Digital tools based on macro- and microsimulation may give a fundamental contribution in solving this issue, thanks to their flexibility, effectiveness, accuracy and accessibility, and we want to apply their potential in the education undergraduate medical students receive. The MEDSKILL school will enable students to: 1) become familiar with digital tools that facilitate the study of anatomy, physiology, pathophysiology and clinical reasoning; 2) confront virtual patients/ mannequins, interpret their artificial symptoms/ signs and make decisions, taking into account the appropriateness of the choice, as well as ethical correlates and sustainability; 3) mimic clinical situations to test patient communication skills, simulate the use of diagnostic equipment, team leaders and interventional therapies.

### Teaching methodologies

The MEDSKILLS initiative will deliver both lectures and hands-on lab sessions. Each practical session is preceded by an introductory lesson on the theoretical aspects of the manoeuvres that will be carried out and is followed by a debriefing session. The course aims to provide training on transthoracic and abdominal ultrasound

methods and the main cardiovascular and abdominal diseases. The course is divided into formal theoretical lessons and practical internships in the Simulabo classroom with the use of the Vimedix ultrasound and advanced echocardiography simulator.



Coordinator  
Michele Emdin

### Who should attend this Seasonal School

Undergraduate medical students (V-VII academic year); as well as postgraduate MDs.

### Coordinator

**Prof. Michele Emdin**

### Key teaching staff

Prof. Claudio Passino  
Prof. Nicola Bellè  
Dr. Alberto Giannoni

**Period** September 6<sup>th</sup> - 10<sup>th</sup> 2021

**Deadline for Registration** July 20<sup>th</sup> 2021





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