

Seasonal
School
2022/23





Sant'Anna

Scuola Universitaria Superiore Pisa

**Seasonal
School**

2022/23



Benvenute/i alla Scuola Superiore Sant'Anna

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

Fin dalla sua costituzione, la Scuola si è distinta per essere una **learning community** in cui docenti, allieve 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



Rankings

Times Higher Education Young University Rankings 2022

1° posto a livello nazionale su 17 università censite

7° posto a livello europeo

14° posto a livello mondiale su 790 università censite

Times Higher Education Young University Ranking 2022

1st at the national level on a census of 17 institutions

7th at the european level

14th at the international level on a census of 790 institutions

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, allieve e 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 alle studentesse e agli studenti di talento per coinvolgerli nei loro progetti sulle tematiche di avanguardia per il progresso della scienza e della società.

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 delle studentesse e 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.

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.

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 hosts 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!



Le Seasonal School

Cosa sono

Le **Seasonal School** sono percorsi formativi di eccellenza a carattere fortemente interdisciplinare, focalizzati sulle tematiche di ricerca di frontiera della Scuola.

Durata

Le Seasonal School hanno la durata di **una o due settimane**, si svolgono prevalentemente 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.

A chi si rivolgono

Sono destinate prioritariamente a studentesse e studenti universitari iscritti a corsi di Laurea, anche a ciclo unico, di Laurea Magistrale che abbiano le medesime caratteristiche di profitto degli studenti della Scuola. La partecipazione di studenti iscritti a corsi PhD è possibile sulla base di quanto stabilito nei singoli bandi. Le Seasonal School sono occasioni di incontro e confronto per entrare in contatto con altri studenti e studentesse di merito provenienti da tutta Italia e dall'estero, da vivere "dentro" le nostre strutture e i nostri laboratori.

Requisiti

Sono ammessi studentesse e studenti iscritti ad un corso di Laurea, Laurea Magistrale o Dottorato di università italiane o straniere che siano 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 qualora le studentesse o gli studenti non siano di madre lingua.

The Seasonal Schools

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.

Duration

The Seasonal Schools have a duration of **one or two weeks**; they are held predominantly 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.

Addressees

They are open primarily to university students enrolled in Bachelor Degree and Masters' Degree who have the same advancement characteristics as the School's students. The participation of students registered in PhD courses is possible according to the rules indicated in each call. 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.

Admission requirements

Candidates eligible for admission will be: students enrolled in a Bachelor degree, Masters' 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.



Come accedere alle Seasonal School

Per ogni Seasonal School viene pubblicato un bando di concorso dove si trovano tutte le informazioni sulle modalità di partecipazione e sulla documentazione necessaria per inviare la candidatura. I bandi vengono pubblicati sulla pagina: www.santannapisa.it/it/seasonal-school.

Costi

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 il materiale di studio, il vitto e l'alloggio nel caso di iniziative in presenza.

Agevolazioni e premi

In base al proprio ISEE universitario sono previste riduzioni della quota di iscrizione. Gli studenti e le studentesse delle università italiane e straniere convenzionate hanno diritto alla tariffa agevolata del 10% sui costi di iscrizione.

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/it/il-talento-allopera).

Alloggi

Le studentesse e gli studenti delle Seasonal School sono ospitati nelle strutture della Scuola, foresteria o residenze del collegio, o in alberghi convenzionati, secondo disponibilità. Le strutture sono collocate nelle immediate vicinanze della Scuola così da permettere ai partecipanti di godere appieno della città di Pisa e del suo centro storico.

How to apply to the Seasonal Schools

The Calls for Application published at 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

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 the study materials, in addition to full board and lodging in the case of on-site courses.

Preferential rates and prizes

A reduction in the enrolment fee is available based on the applicant's income.

Italian and foreign Universities with specific agreements with Sant'Anna School are entitled to a 10% reduction in the enrolment costs.

A 450 € scholarship provided by Fondazione Talento all'Opera Onlus will be assigned to the three best performing participants of each course.

Accommodation

Students are accommodated in the School's facilities, guesthouses or residences of the college, or in affiliated hotels, subject to availability. The facilities are located close to the School in order to allow participants to fully enjoy the city of Pisa and its historic center.

Il network del talento

Forte della sua esperienza, la Scuola Superiore Sant'Anna si propone quale soggetto facilitatore e di coordinamento per la costituzione della rete del talento attraverso la collaborazione con università italiane e straniere e altri soggetti istituzionali interessati ad offrire ai propri studenti e studentesse di merito una formazione integrativa sulle tematiche di ricerca più avanzate.

Al momento hanno aderito al progetto le seguenti università ed enti: **Università di Catania, Università della Tuscia, Università di Trento, Fondazione Onaosi, Università di Messina, Università di Macerata, Università di Camerino, Università della Calabria, Università di Palermo, Università della Valle d'Aosta, Libera Università di Bolzano, Università Politecnica delle Marche e Università di Siena.**

Alle università convenzionate è riservato almeno un posto per ogni corso in programma oltre alla riduzione del 10% delle spese di iscrizione a tutti gli studenti e le studentesse, fermi restando i criteri di selezione previsti dal bando di ammissione.

➡ **Il network delle collaborazioni è in costante evoluzione, le università interessate ad aderire al progetto possono contattarci per avere maggiori dettagli e informazioni seasonalschools@santannapisa.it**
Tel. +39 050 883204

The talent network

On the strength of its experience, the Sant'Anna School of Advanced Studies proposes itself as a facilitator and coordinator for the establishment of a talent network through collaboration with Italian and foreign universities and other institutional subjects in order to offer their students of merit an integrative training on the most advanced research topics.

At the moment, the following Universities and associations have joined the project: **University of Catania, University of Tuscia, University of Trento, Fondazione Onaosi, University of Messina, University of Macerata, University of Camerino, University of Calabria, University of Palermo, University of Aosta Valley, Free University of Bozen-Bolzano, Marche Polytechnic University and University of Siena.**

Affiliated universities are reserved at least one place for each course included in the program as well as a 10% reduction in enrolment costs for all students, without prejudice to the selection criteria set out in the admission call.

➡ **The network of collaborations is constantly evolving. Universities interested in joining the project can contact us for more details and information seasonalschools@santannapisa.it**
Ph. +39 050 883204

I collegi di merito

Il Protocollo d'intesa sottoscritto nel gennaio 2021 tra la Scuola Superiore Sant'Anna e la Conferenza dei Collegi Universitari di Merito prevede l'attivazione di una collaborazione strutturata tra le due istituzioni, aprendo la partecipazione alle Seasonal School a studentesse e a studenti dei 52 **Collegi Universitari di Merito** aderenti alla Conferenza con una tariffa agevolata del 10%. Fermi restando i criteri di selezione previsti dal bando di ammissione, la Scuola riserva almeno un posto per ogni corso ad una studentessa o studente dei Collegi Universitari di Merito segnalato dalla Conferenza.

Italian university colleges of merit

As provided in the Memorandum of Understanding finalized by Sant'Anna School and the Conferenza dei Collegi Universitari di Merito (CCUM) in January 2021, students of the 52 **Italian University Colleges of Merit** joining the association, can participate to Seasonal School with a 10% reduction in enrolment costs.

Moreover, for every course, Sant'Anna reserves at least 1 position for a student coming from a University College of Merit, upon appointment of CCUM and the fulfilment of the selection criteria provided by the call for admission of every course.

EELISA

European University

Il progetto EELISA

EELISA, European Engineering Learning Innovation and Science Alliance, è un network del programma European Universities a cui partecipa la Scuola Superiore Sant'Anna, che riunisce nove istituzioni universitarie europee con l'obiettivo di definire e implementare un modello condiviso di ingegnere europeo radicato nella società contemporanea. Per gli studenti e le studentesse delle università partner (**Universidad Politécnica de Madrid, Budapesti Műszaki és Gazdaságtudományi Egyetem, École Nationale des Ponts et Chaussées, Friedrich-Alexander-Universität Erlangen-Nürnberg, İstanbul Teknik Üniversitesi, Scuola Normale Superiore, Universitatea Politehnica din București, Université Paris Sciences et Lettres**) sono previste agevolazioni rispetto al pagamento della quota d'iscrizione.

EELISA – European Universities

EELISA, European Engineering Learning Innovation and Science Alliance, is a project developed within the framework of the European Universities program which brings together nine Higher Education Institutions from seven different countries in Europe with the aim of defining and implementing a shared model of European engineer rooted in society. Students enrolled in the following Universities, partner of the network: **Universidad Politécnica de Madrid, Budapesti Műszaki és Gazdaságtudományi Egyetem, École Nationale des Ponts et Chaussées, Friedrich-Alexander-Universität Erlangen-Nürnberg, İstanbul Teknik Üniversitesi, Scuola Normale Superiore, Universitatea Politehnica din București and Université Paris Sciences et Lettres** can be waived from the payment of the enrollment fee under certain circumstances.

Seasonal
School
Program
2022/23



MEDSKILL

Development of MEDical SKILLS by Simulation



Period

September 12th-16th, 2022

Deadline for Registration

August 21st, 2022

Learning objectives

As of today, the need for practical skills and problem-solving capabilities remains largely unmet in many medical school curricula across Europe. Medical school education, in fact, remains largely anchored to a traditional paradigm of learning a discrete amount of information about pathophysiology principles and illnesses' descriptions, without worrying about developing the skills necessary to work confidently "on the patient". Digital tools based on macro-and microsimulation, thanks to their flexibility, effectiveness, accuracy and accessibility may give a fundamental contribution in solving this issue, and we want to apply their potential in undergraduate medical students' education. The MEDSKILL school will allow students to: 1) get in touch 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 maneuvers that will be carried out and followed by a debriefing session. The course aims to provide preparation 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.

Who should attend this Seasonal School

Undergraduate medical students (V-VII academic year), postgraduate M.D.s candidacies can be evaluated.

Coordinator and key teaching staff

Coordinator: Prof. Michele Emdin,
Prof. Claudio Passino

Key teaching staff: Prof. Nicola Bellè, Dr. Alberto Giannoni, Dr. Emilio Pasanisi, Dr. Francesco Sbrana, Dr. Marco Ciardetti, Dr. Giuseppe Vergaro, Dr. Angelo Monteleone, Dr. Vladyslav Chubuchnyi, Claudia Taddei, Elisa Poggianti

IACH

InnovAction in Health care: strategy, performance and data management



Period

October 3rd-7th, 2022

Deadline for Registration

September 5th, 2022

Learning objectives

The IACH School will cover specific research topics underpinning public health care system, with an emphasis on the analysis of real word evidence and data for a better use of assets and resources to achieve better outcomes and improved efficiency of care. The course will address the managerial implications of the recent pandemic of coronavirus disease 2019 (COVID-19), in terms of resilience and innovation. Students will explore, with both a theoretical and empirical approach, 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. Innovation will be a key topic, meant as organizational, behavioral, and technological innovation. Innovative solution to boost patients and community participation, engagement and co-production in the care process will be discussed and analyzed in different setting of care. Students will be able to discuss challenging research issues, such as: how to measure and assess multi-stakeholder and multi-dimensional performance in health care; what are possible data driven solutions to cope with variation; how to develop innovative patient-driven interventions; what are the main levers to

improve quality and appropriateness of care and how to address challenges facing the crisis, such as the pandemic, from the organizational perspective. Finally, different research methodological approach will be discussed.

Teaching methodologies

Participants to the IACH School will be asked to join classes in a participative way. 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 real case studies discussions. Several business games and exercises, using real-world data, will be organized to help participants crystalize knowledge. Moreover, facilitators will be involved to facilitate interactions and improve the discussion during the lab classes.

Who should attend this Seasonal School

The seasonal school is open to undergraduate and postgraduate students from various backgrounds who are interested in the field of health care management.

Coordinator and key teaching staff

Coordinator: Sabina De Rosis

Key teaching staff: Sabina Nuti, Milena Vainieri, Claudio Passino, Gaia Bertarelli, Paola Cantarelli, Francesca Ferrè, Stefania Manetti, Anna Maria Murante, Francesca Pennucci, Federico Vola

BEEP

Biology for human space exploration



Period

October 10th-14th, 2022

Deadline for Registration

September 12th, 2022

Learning objectives

The Seasonal School will offer an overview of specific topics of experimental biology and biomedicine in support of human exploration of space.

With the dawn of commercial access and exploitation of space, the major space agencies including the Italian Space Agency and the European Space Agency are planning, with industrial support and investments, outposts for human crews to live and work in space.

This course represents a unique opportunity to learn about how space exploration has provided experimental biology a new and unprecedented way to study life, and also will highlight the most compelling issues for a safe and productive inhabiting of space.

Teaching methodologies

Multidisciplinary seminars and lecturers from Academia as well as from space agency and industry will introduce the most critical biomedical challenges to human space exploration. Topics include gravitational biology, with reference to molecular and cell biology for microgravity and hypergravity; physiology and chronobiology in extreme environments; ground simulations of microgravity; hibernation for long duration missions; a broad overview

of life support systems: from robotics applied to telemedicine for remote medical interventions, production of vegetable foods, architectures for humans on celestial bodies, fertilization of extraterrestrial soil. A site visit to Kayser Italia, srl (Livorno) will end the course, with demonstration of hardware and software for biology and physiology experiments in space missions.

Who should attend this Seasonal School

Undergraduate, postgraduate and PhD students from different backgrounds (e.g. biology, medicine, engineering) who are interested in understanding the key issues of biology in support of human space exploration.

Coordinator and key teaching staff

Coordinator: Debora Angeloni

Key teaching staff: Valentina Colla, Antonio Frisoli, Alberto Giannoni, Anna Mensuali, Claudio Passino, Chiara Pucciariello, Donato Romano.

PROREMOTE

PROximity care in REMOTE areas: A multidisciplinary approach to proximity care in remote areas



Period

October 17th-21st, 2022

Deadline for Registration

September 19th, 2022

Learning objectives

Covid-19 highlighted how important it is to promote local health and ensure proximity to the patient. How is it possible to pursue this objective also in inland areas, mountain areas or small islands? How is it possible to guarantee equity of treatment and excellence in care even for citizens who live far from large welfare centers? This seasonal school is dedicated to this theme. The ways in which to analyze the needs of a territory and the possible implementable technological and organizational solutions will be analyzed. The Seasonal School will introduce participants to the urgent topic of proximity-care through a dialogue between social, experimental and life sciences. Students will be involved, through different perspectives, on the issues inherent to the enhancement of quantitative and qualitative data, and organizational models for local areas, as useful information for decision makers and service manager, to support the innovation of services and of the social protection net of the analysed contexts, starting from the example of Valle del Serchio. At the end of the Seasonal School, participants will develop a comprehensive view and specific tools to support policy making to support proximity care in remote areas.

Teaching methodologies

Students will find an interactive and interdisciplinary learning environment that facilitates problems understanding and solving, as well as the development of a decision-making process capable of considering and valuing all the actors of the contexts analysed. Several experts from different disciplines will participate in the program presenting their experience.

Who should attend this Seasonal School

PROREMOTE is mainly aimed at students of master's degree courses in Economics, Political Science, Management Engineering, Organizational Sciences and Sociology, as well as students of the last two years of Medicine and Health Professions (and equivalent). Any other applications may be considered.

Coordinator and key teaching staff

Coordinator: Dr. Gaia Bertarelli
Key teaching staff: Prof. Piero Castoldi, Gastone Ciuti, Luca Gori, Sabina Nuti, Claudio Passino, Francesca Pennucci, Milena Vainieri, Luca Valcarenghi

With the support of

Fondazione Cassa di Risparmio di Lucca

CESM

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



Period

October 24th-28th, 2022

Deadline for Registration

September 26th, 2022

Learning objectives

The main target of the 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 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 9 training modules lasting half day each on issues such as: circular economy assessment, circular design, strategy development & business models, communication. Finally, a half-day laboratory is scheduled to apply what students have learned in all previous lessons. Therefore, the learning objectives of 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 articulation of training and laboratories will allow 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 lessons learnt. Case studies will also be included amongst the teaching tools on 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 and key teaching staff

Coordinator: Prof. Marco Frey
Key teaching staff: Prof. Fabio Iraldo, Prof. Francesco Testa, Prof. Francesco Rizzi, Dr Massimo Battaglia, Dr Tiberio Daddi, Dr Natalia Gusmerotti, Dr Eleonora Annunziata, Dr Filippo Corsini

TWIST

Trasformazioni del Welfare, Innovazione Sociale, Diritti e Terzo settore

📅 Period

November 7th-11th, 2022

✂️ Deadline for Registration

October 4th, 2022

Learning objectives

The seasonal school is aimed at acquire knowledge and skills on the organization of welfare systems and access to fundamental rights, focusing on the innovative elements of the relationship between public and private entities, with a particular reference to the analysis of community's needs and to the identification of innovative solutions to cope with it. The Course combines, in an interdisciplinary perspective, the institutional profiles of welfare systems with the analysis of some specific social sectors related to the reduction of inequalities, the fight against social exclusion and the creation of inclusive societies (objectives of the United Nations 2030 Agenda). These main objectives represent the most important challenges that, in the current historical context, await the welfare systems and require specific skills for the design and implementation of innovative paths, also to mitigate the economic and social impact of the Covid-19 pandemic. Moreover, a specific attention will be devoted to the NextGenerationEU program, aimed at making economies and societies in EU Member States more sustainable, resilient and prepared for the challenges and opportunities of the ecological and digital transition. In this framework, the Course also offers a key to understanding the measures



that, in line with this EU program, will be envisaged and implemented as part of the National Recovery and Resilience Plan, which identifies, among others, innovation, health, education and inclusion as strategic axes.

Teaching methodologies

The seasonal school promote an interactive and cross-disciplinary learning environment that facilitate problem solving as well as strong decision-making and strategic communication. The course will be articulated in lectures, working groups, case studies as well as meetings with social innovation experts.

Who should attend this Seasonal School

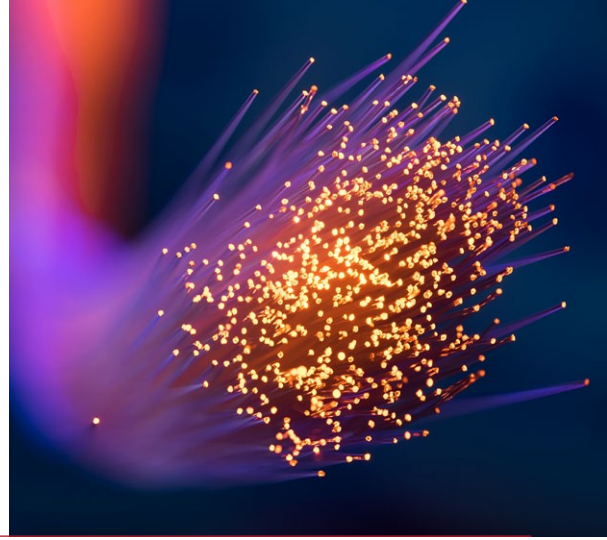
Undergraduate, postgraduate and PhD students from different backgrounds who are interested in the course topics (e.g., law, political science, social sciences, sociology, philosophy, etc.).

Coordinator and key teaching staff

Coordinator: Emanuele Rossi, Elena Vivaldi, Luca Gori, Francesca Biondi Dal Monte
Key teaching staff: David Natali, Giuseppe Martinico, Paolo Addis

PHOTONS-@3

Photonic Technologies for Sensing Applications



Period

January 23rd-27th, 2023

Deadline for Registration

December 19th, 2022

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.

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

Undergraduate, postgraduate and PhD students from different backgrounds, including information and industrial engineering, as well as physics and material science. A basic knowledge of maths, algebra, geometry, computer programming, electromagnetism and optics is required.

Coordinator and key teaching staff

Coordinator: Professor Fabrizio Di Pasquale
Key teaching staff: Professor Antonella Bogoni, Professor Carlo Alberto Avizzano, Dr. Philippe Velha, Dr. Stefano Faralli, Dr. Claudio Oton

ARTIST

5G/6G networks trAnsfoRming The dIgital SocieTy



Period

January 30th-February 3rd, 2023

Deadline for Registration

December 19th, 2022

Learning objectives

Future mobile network technologies (5G, 6G, etc.) will allow the creation of new applications that will transform the way people live, work and interact with the environment. The educational objectives of the proposed seasonal school are to understand and to learn:

- the architectures of 5G / 6G cellular systems with regard to the radio interface, the wired component and the software components such as virtualized entities, edge computing and AI-aided resource allocation.
- the main features of data traffic transport and routing technologies in 5G/6G networks, telemetry techniques and advanced traffic conditioning techniques.
- the emerging services that may be delivered by 5G/6G networks and how these networks are able to meet the stringent requirements that such services sometimes require.
- the impact of the aforementioned services on the sustainability of the planet and the global challenges of the 21st century. The Seasonal School ARTIST has been designed to critically evaluate and elaborate on these new technologies to stimulate a focused examination of the many facets and challenges offered by 5G and future mobile network architectures.

Teaching methodologies

ARTIST is entirely delivered in English and

will include a mix of front teaching and hands-on sessions. The in-class teaching consists of focus sessions on key topics, industrial talks, brainstorming and break out sessions. The hands-on part will take place through laboratory sessions organized over 4 afternoons. The final exam presentation of a brief project will take place on-line one week after the end of the School.

Who should attend this Seasonal School

Main candidate for attendance are Master of Science (Laurea Magistrale) students in the area of Computer Science, Telecommunication Engineering, Electronic Engineering, Aerospace Engineering, Biomedical Engineering, Automation Engineering. Postgraduate students and PhD students in the aforementioned disciplines interested in the Seasonal School topics are also welcome.

Coordinator and key teaching staff

Coordinator: Piero Castoldi, Luca Valcarengi, Andrea Sgambelluri, Nicola Sambo, A. Tenucci, M. Gagliardi
Key teaching staff: Francesco Paolucci, Filippo Cugini, Davide Scano, Alessandro Pacini, Emilio Paolini, J. Borromeo

With the support of

BRAINE





Cibo, sostenibilità e diritti

Period

February 6th-10th, 2023

Deadline for Registration

January 9th, 2023

Learning objectives

The Seasonal School will introduce participants to the urgent topic of food sustainability, exploring how to build sustainable and climate-resilient agri-food systems through a dialogue between social and life sciences. Regulatory and non-regulatory measures for socially inclusive and environmentally more efficient food systems will be addressed. The policy and legal implications of the transformative approach recently taken by the EU with the European Green Deal and the shift towards more sustainable solutions in a Farm to Fork perspective will be thoroughly analysed during the Seasonal School. Topics such as food security and the right to food, food safety, international trade, digital innovation and blockchain will be at a centre stage. Moreover, issues linked to farming and consumption models will be taken into consideration through seminars given by scholars from the life science Institute.

Teaching methodologies

Students will find an interactive and cross-disciplinary learning environment that facilitate problem solving as well as strong decision-making, strategic communication, and leadership. Interdisciplinary will characterize both the teaching staff (including

professors of law, economics, management, agronomy, medicine) and the participants. Cross-fertilization among disciplines is in fact the most effective way for designing more sustainable food systems.

Who should attend this Seasonal School

Undergraduate, postgraduate and PhD students from different backgrounds (e.g. law, political science, life sciences and engineering) who are interested in understanding the agri-food systems governance.

Coordinator and key teaching staff

Coordinator: Eloisa Cristiani, Mariagrazia Alabrese

Key teaching staff: Francesca Capone, Natalia Gusmerotti, Laura Ercoli, Vincenzo Lionetti, Camilla Moonen, Andrea Saba

AgriDev

Climate resilient, biodiversity-based agriculture for sustainable development



Period

February 13th-17th, 2023

Deadline for Registration

January 16th, 2023

Learning objectives

Cropping systems in the XXI Century face complex challenges that cannot be addressed with unidimensional solutions. AgriDev program spans through climate science, agrobiodiversity, and economics with the aim of developing new angles to engage momentous challenges in food security, sustainability, and climate change adaptation. Students will develop a portfolio of knowledge at the base of cutting-edge scientific approaches in research for sustainable development. The seasonal school is structured in interconnected modules. The first module will explore climate science, discussing key concepts in climate change, and climate-agriculture nexus. The second module will deal with agrobiodiversity, its relevance for sustainability and provision of ecosystem services. The third module will discuss breeding approaches and means to enhance varietal development and recommendation. The fourth module will discuss micro- and macroeconomic aspects of cropping systems with a data-driven approach. Eventually, AgriDev will build a holistic interpretation of sustainable intensification of farming systems combining climate, agronomy, and economics to increase the impact of agricultural research for development.

Teaching methodologies

The seasonal school is structured in a blended training modality joining lecture and panel discussions over five days in Pisa, combining daily sessions with evening gatherings. Trainees will be involved in roundtable discussions and will be given opportunities to present themselves, their background, and their research ambitions. We aim to maximize interaction with training staff to foster discussion outside the classroom, through city tours and aperitivi (a staple of Italian lifestyle).

Who should attend this Seasonal School

The seasonal school is designed for undergraduate students, but graduate students may also apply. We expect a minimal background in life sciences, but we welcome any student with a strong interest in modern agronomic approaches aimed at sustainability.

Coordinator and key teaching staff

Coordinator: Prof. Matteo Dell'Acqua
Key teaching staff: Prof. Mario Enrico Pè, Mercy Macharia Wairimu, Prof. Roberto Buizza, Prof. Paolo Bàrberi, Anna-Camilla Moonen, Prof. Alessandro Nuvolari, Francesco Lamperti

ECLIRE

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



Period

February 20th-24th, 2023

Deadline for Registration

January 23rd, 2023

Learning objectives

The seasonal school aims to train participants on the ethics of climate change through a triple perspective: individual, global and intergenerational. It will also do so by opening up to disciplines beyond political and moral philosophy, such as political science, metaphysics, sociology and economics. The overall objective is to provide participants with the normative keys to analyse climate mitigation policies in the light of criteria such as historical responsibility, global asymmetries of economic power and adaptive capacity, and duties of justice towards future generations. The issue of social acceptability and socio-economic consequences will also be taken into account through the contribution of sociologists and social scientists. This will be preceded by an opening day with hard scientists dedicated to the introduction to climate change and the discussion of possible future risk scenarios.

Teaching methodologies

The seasonal school includes interactive face-to-face lectures led by pairs of lecturers, climate policy-making simulations and interdisciplinary workshops (also open to personalities from the world of communication, business and European institutions).

Who should attend this Seasonal School

Undergraduate, postgraduate and PhD students from different backgrounds (e.g. philosophy, law, political science, life sciences, engineering, economics, management, communication, development studies) who are interested in understanding risks, solutions and opportunities of climate change mitigation.

Coordinator and key teaching staff

Coordinator: Alberto Pirni

Key teaching staff: Roberto Buizza, Francesca Capone, Franco Flandoli, Barbara Henry, David Natali

Management of Innovation and Common Good



Period

February 27th-March 3rd, 2023

Deadline for Registration

January 30th, 2023

Learning objectives

This Seasonal School addresses some of the main issues regarding innovation management and knowledge exchange (including technology transfer) with a broad vision which includes sustainability and health management. The specific approach of this Seasonal School (1) aims at arousing the interest of participants from different scientific disciplines and (2) focuses on the goal of contributing to the common good (at the level of universities, companies, territories). The theories and tools for managing innovation will be presented and discussed not so much with the objective of creating competitive advantage, but as a support to the ability to launch new initiatives of various kinds aimed at creating value for the society as a whole, especially in coherence with the need to rethink the current capitalism system. Emphasis will be given to the role of purposedriven organizations, their capacity to trigger architectural innovation to address societal problems, as well as on the emergence of new ways of interacting with social, environmental and cultural contexts. In this regard, some paradigms that are today at the center of the debate on the transformation of the economy which is urgently needed will be presented, such as those of the creation of shared value, integral

ecology and civil economy. The role of the United Nations Sustainable Development Goals will also be addressed.

Teaching methodologies

The Seasonal School will include lectures by professors as well as presentations by entrepreneurs and other people and organizations active with different types of profit and non-profit initiatives aimed at contributing to the common good. Students will be also asked to contribute not only with questions but also with short presentations about specific issues as well as their personal experiences.

Who should attend this Seasonal School

Undergraduate, postgraduate and PhD students from different backgrounds interested in acquiring knowledge, competences and experiences in the broad field of innovation and common good.

Coordinator and key teaching staff

Coordinator: Andrea Piccaluga

Key teaching staff: Milena Vainieri, Marco Frey, Alberto Di Minin, Francesco Testa, Tiberio Daddi, Sara Barsanti, Gianluca Gionfriddo, Natalia Gusmerotti

INSIDER

Innovazioni nel Sistema della Rappresentanza

Period

March 20th-24th, 2023

Deadline for Registration

February 20th, 2023

Learning objectives

The seasonal school offers a selective study program open to motivated undergraduate and PhD students, giving them the opportunity to obtain a specific training on the main current issues concerning political representation, electoral and parliamentary law in a comparative and interdisciplinary perspective that includes law, political science, political philosophy, economy as well as the contribution of other fields (e.g., ICTs). It is a kind of training that no ordinary university course is able to provide, in particular due to the presence of speakers with different background and expertise. The students will therefore acquire skills that will allow them to critically consider from different points of view the various paradigm changes in political representation.

Teaching methodologies

The course will be conducted by lecturers of different backgrounds, thus enabling participants to look at the subject matter from an interdisciplinary perspective. The course will be articulated in lectures, working groups, case studies as well as meetings with experts. Unless otherwise indicated, the lessons will be held in Italian. An advanced knowledge of the Italian language is therefore required.

Who should attend this Seasonal School

Undergraduate, postgraduate and PhD students from different backgrounds who are interested in the course topics (e.g., law, political science, social sciences, sociology, philosophy, etc.).

Coordinator and key teaching staff

Coordinator: Emanuele Rossi, Valerio Di Porto, Fabio Pacini

Key teaching staff: Francesca Biondi, Luca Gori, Elena Vivaldi



From minimally invasive surgery to nanorobotics

A voyage in the field of intervention robotics

Period

June 5th-9th, 2023

Deadline for Registration

May 8th, 2023

Learning objectives

The Seasonal School will introduce participants to the highly interdisciplinary field of minimally invasive (robotic) interventions. Students will be introduced to intervention robotics, artificial intelligence for medical imaging, smart materials and innovative robotic components, microrobotics and nanomedicine, as well as clinical aspects of minimally invasive interventions.

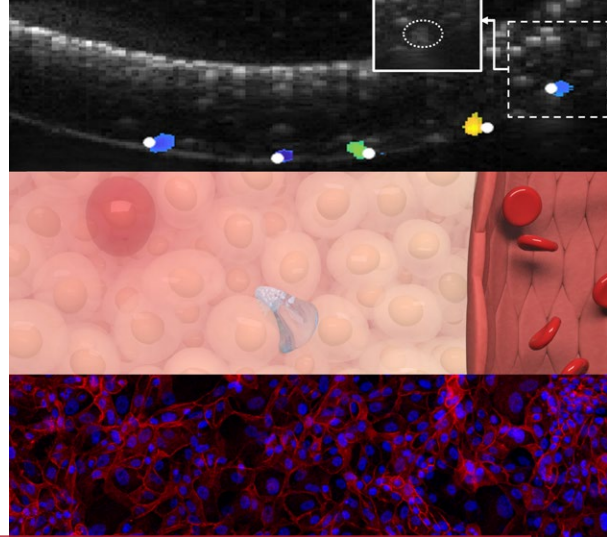
Students will have a chance to discuss the numerous scientific, technological and clinical challenges in the field, and to gain skills in developing innovative technological solutions with a highly multi-disciplinary and holistic approach.

At the end of the Seasonal School, students will be able to:

1. describe the state of the art and identify the potential future developments of robotics and technologies for minimally invasive interventions;
2. understand and discuss the scientific, clinical and technological challenges posed by this interdisciplinary research field;
3. develop innovative solutions to complex scientific-technological problems with a highly multi-disciplinary approach.

Teaching methodologies

Students will find an interactive and



multidisciplinary learning environment that facilitates open discussion as well as collective problem solving and teamwork. Students will have a chance to see and taste the experience of cutting-edge research carried on at the BioRobotics Institute and Department of Excellence in Robotics and AI. Several professors and researchers, as well as clinical and industrial experts, will present their experience and interact with the students.

Who should attend this Seasonal School

Postgraduate and PhD students, with backgrounds in engineering, physics, mathematics, medicine and life sciences, and computer sciences, who are interested in challenging themselves with such a relevant and interdisciplinary field of research.

Coordinator and key teaching staff

Coordinator: Dr. Stefano Palagi

Co-coordinator: Dr. Sara Moccia

Key teaching staff: Prof. Arianna Menciassi, Prof. Gastone Ciuti, Dr. Matteo Cianchetti, Prof. Leonardo Ricotti, Prof. Claudio Passino

Issues on China

Innovation, Society and Culture

📅 Period

June 12th-16th, 2023

✍️ Deadline for Registration

May 15th, 2023

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 Chinese innovation, geopolitical and international relation issues and legal systems. Since China has become a more assertive actor within the international order, shaping its own system of alliances and building new regional and commercial



architecture, the Seasonal School will be an occasion to analyse in deep the evolution, the prospects, and the challenges of this change, with the eyes of European and Italian scholars that find themselves “outside China”.

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

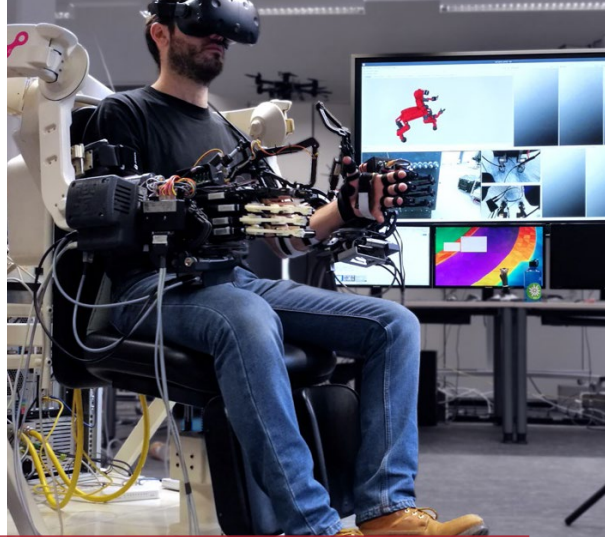
Highly motivated students (Undergraduate, Postgraduate) from any university degree programs (e.g. law, political science, life sciences, medicine and engineering) are welcome to take part in the Seasonal School.

Coordinator and key teaching staff

Alberto Di Minin - Nicola Bellini - Giuseppe Martinico - Pisa Confucius Institute Teachers - in collaboration with Galileo Galilei Italian Institute, Chongqing

AIRONE

Artificial Intelligence and RObotics in exteNded rEality



Period

June 19th-23rd, 2023

Deadline for Registration

May 22nd, 2023

Learning objectives

In the forthcoming decade, technologies of eXtended Reality (XR), 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 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 ways.

At the end of the AIRONE School, participants will learn 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. Primary teachers active in 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 and key teaching staff

Coordinator: Prof. Massimo Bergamasco

Key teaching staff: Prof. Antonio Frisoli, Prof. Carlo Alberto Avizzano, Prof. Massimiliano Solazzi, Prof. Marco Fontana, Dr. Marcello Carrozzino, Dr. Franco Tecchia and other teachers still to be confirmed.

CLIMATE CHANGE AND HUMAN RIGHTS

New Developments in Law, Litigation and Beyond



Period

July 3rd-7th, 2023

Deadline for Registration

June 5th, 2023

Learning objectives

The Seasonal School will introduce participants to the complex interplay between climate change and human rights. Recent legal, judicial and policy developments in the field will be examined, with particular regard to emerging issues such as the protection of vulnerable groups, the gender dimension, the interests of future generations, and the role of business actors. The growing phenomenon of climate litigation will be investigated, with a specific focus on human rights-based cases at the national, regional and international levels. The critical thinking of the participants will be stimulated, and they will be supported in identifying further opportunities to study and/or work in the field.

Teaching methodologies

The Seasonal School is characterised by the use of an integrated methodological approach, combining lectures, group exercises and simulations/role playing. The main goal of such approach is to provide the participants with the opportunity to apply the theoretical skills acquired during the frontal sessions to a practical scenario.

Who should attend this Seasonal School

The Seasonal School will fill an important gap in the current educational offer of

Italian Universities, as well as of many foreign academic institutions. The course is intended for (Italian and foreign) students who already completed a bachelor's degree and are currently enrolled in a postgraduate programme (e.g. LLM, Master of Arts, Master of Science) as well as PhD students. We welcome and encourage the participation of students from different backgrounds (e.g. law, international relations, political sciences, philosophy, economics).

Coordinator and key teaching staff

Coordinator: Prof. Francesca Capone

Co-coordinators: Dr. Chiara Tea Antoniazzi and Dr. Riccardo Luporini

Key teaching staff: Dr. Christine Bakker, Prof. Giuseppe Martinico, Prof. Mariagrazia Alabrese, Prof. Edoardo Chiti, Prof. Alberto Pirni, Prof. Francesca Biondi



Cybersecurity

A multidisciplinary perspective

Period

July 10th-15th, 2023

Deadline for Registration

June 5th, 2023

Learning objectives

The Seasonal School aims to address the issue of cybersecurity through a cross-disciplinary analytical approach, combining computer science and social sciences, in order to provide participants with the tools to understand and discuss the various dimensions of cybersecurity from a technical, theoretical and legal point of view. The Seasonal School will offer the participants an updated and comprehensive understanding on the different dimensions of cybersecurity, with the aim of raising awareness of the opportunities and risks associated with new technologies, in order to allow them to develop a critical attitude towards the most problematic and controversial aspects of cybersecurity issues.

Teaching methodologies

In line with the multidisciplinary approach the Seasonal School is grounded on, the participants will be exposed to insights and research-based information provided by a qualified faculty of junior/senior academics and experts.

The Program will consist of two kinds of activities: a) core activities – common multidisciplinary classes, seminars and laboratories that all participants to the Seasonal School will attend; b) specialized

activities – advanced classes on specific research topics grouped up in two different curricula: (I) social sciences path (II) technological path. When submitting their application for the Seasonal School, candidates are required to express their preference as to what path to be included in. The teaching methodology will privilege an active learning stance; thus, different formats will be included in the education program – lectures, round tables, case studies, simulations and gaming exercises – in order to stimulate the fruitful interaction, critical engagement and problem-solving skills of all participants. During the teaching sessions as well as during the informal social events the participants will have the opportunity to enlarge their networks, getting in touch with experts and academics.

Who should attend this Seasonal School

BA and MA students enrolled in undergraduate and postgraduate programs in Political Sciences, Law, Economics, Computer Science, Information Technology, Computer Engineering, Management Engineering.

Coordinator and key teaching staff

Coordinator: Professor Anna Loretoni, Scientific Coordinator; Elisa Piras, Education Activities Coordinator

Key teaching staff: Giovanni Comandé, Tommaso Cucinotta, Rocco De Nicola, Luigi Martino, Alessandro Biondi

Economics of Innovation and Technological Change



Period

July 17th-21st, 2023

Deadline for Registration

June 19th, 2023

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 and key teaching staff

Coordinator: Prof. Daniele Moschella

Key teaching staff: Prof. Giovanni Dosi, Prof. Arianna Martinelli, Prof. Andrea Mina, Prof. Alessandro Nuvolari, Prof. Federico Tamagni, Prof. Giulio Bottazzi

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