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**ADM 2023 INTERNATIONAL CONFERENCE
SEPTEMBER 06TH - 08TH, 2023 - FLORENCE**

CONFERENCE HANDBOOK

WELCOME NOTE

Monica Carfagni, conference Chair

Dear colleagues,

It is with great pleasure and honour that I welcome you to Florence and to the ADM 2023 conference. The conference is organized and hosted by the Department of Industrial Engineering of Florence which, for these three days, I have the honour to represent.

Throughout the next few days, our conference will serve as a platform to exchange ideas, showcase breakthroughs, and foster connections that transcend borders and disciplines. Together, we will explore the evolving landscape of our compelling research field.

Florence, a city renowned for its artistic heritage, rich history, and timeless charm, provides the perfect backdrop for our journey into the world of design methods. The picturesque streets and iconic landmarks of this cultural treasure are sure to inspire us all as we delve into the realms of research, innovation, and collaboration.

Our esteemed lineup of keynote speakers, distinguished panelists, and talented participants will engage in thought-provoking discussions and inspiring presentations that will spark creativity and ignite passion.

On behalf of all the organizing committee, I wish you an excellent conference and that this event will remain in your minds for a long time.



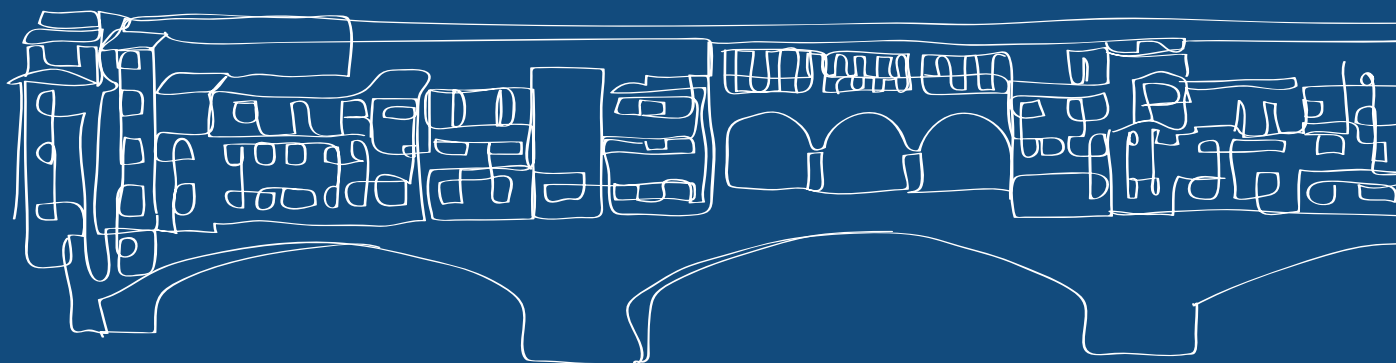
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METODI

PROGRAM AT A GLANCE



DAY 1

6TH SEPTEMBER

TIME

09.00

CONFERENCE REGISTRATION

10.30

AUDITORIUM B

CONFERENCE OPENING

ALESSANDRA PETRUCCI, RECTOR OF UNIVERSITY OF FLORENCE

BRUNO FACCHINI, DIRECTOR OF THE DEPARTMENT OF INDUSTRIAL ENGINEERING OF FLORENCE

MONICA CARFAGNI AND ROCCO FURFERI, ADM 2023 GENERAL CHAIRS, DEPARTMENT OF INDUSTRIAL ENGINEERING OF FLORENCE

11.30

AUDITORIUM B

KEYNOTE SPEECHES

BRUNO SICILIANO, FEDERICO II UNIVERSITY OF NAPLES

MAURIZIO SCORIANZ, AOU CAREGGI HOSPITAL OF FLORENCE

PAULINA SOCHA, BIO3DMODEL

13.00

LUNCH

PARALLEL SESSIONS

AUDITORIUM B

ROOM 103

ROOM 102

ROOM 106

14.30

SESSION 1
COMPUTER-AIDED
GEOMETRIC MODELLING
AND DESIGN

SESSION 3A
DESIGN FOR
ADDITIVE MANUFACTURING

SESSION 4A
INTEGRATED METHODS
FOR PRODUCT AND
PROCESS DESIGN,
SIMULATION,
ANALYSIS AND
OPTIMIZATION

SESSION 5A
ENGINEERING METHODS
IN MEDICINE

16.10

COFFEE BREAK

16.40

SESSION 2
HUMAN-RELATED
AND USER-CENTERED
DESIGN

SESSION 3B
DESIGN FOR
ADDITIVE MANUFACTURING

SESSION 4B
INTEGRATED METHODS
FOR PRODUCT AND
PROCESS DESIGN,
SIMULATION,
ANALYSIS AND
OPTIMIZATION

SESSION 5B
ENGINEERING METHODS
IN MEDICINE

DAY 2

7TH SEPTEMBER

TIME

09.00

PARALLEL SESSIONS

AUDITORIUM B

SPECIAL SESSION 1A
DESIGN METHODS IN
FUSION ENGINEERING

ROOM 103

SESSION 3C
DESIGN FOR
ADDITIVE MANUFACTURING

ROOM 102

SESSION 8A
REVERSE ENGINEERING,
DIGITAL ACQUISITION,
IMAGE PROCESSING
AND INSPECTION

SESSION 9
EXPERIMENTAL METHODS IN
PRODUCT DEVELOPMENT

ROOM 106

SESSION 5C
ENGINEERING METHODS
IN MEDICINE

ROOM 107

SPECIAL SESSION 3A
DESIGN FOR
SPORT ENGINEERING

11.00

COFFEE BREAK

11.30

SPECIAL SESSION 1B
DESIGN METHODS IN
FUSION ENGINEERING

SPECIAL SESSION 5A
ADVANCED HUMAN BODY
ACQUISITION AND
MODELLING TECHNIQUES

SESSION 8B
REVERSE ENGINEERING,
DIGITAL ACQUISITION,
IMAGE PROCESSING
AND INSPECTION

SESSION 9
EXPERIMENTAL METHODS IN
PRODUCT DEVELOPMENT

SESSION 7
INDUSTRIAL DESIGN AND
ERGONOMICS

SPECIAL SESSION 3B
DESIGN FOR
SPORT ENGINEERING

13.00

LUNCH

PARALLEL SESSIONS

AUDITORIUM B

SPECIAL SESSION 1C
DESIGN METHODS IN
FUSION ENGINEERING

ROOM 103

SPECIAL SESSION 5B
ADVANCED HUMAN BODY
ACQUISITION AND
MODELLING TECHNIQUES

ROOM 102

SESSION 6
DIGITAL TWIN AND
DIGITAL FACTORY

ROOM 106

ROOM 107

SPECIAL SESSION 3C
DESIGN FOR
SPORT ENGINEERING

14.30

15.20

COFFEE BREAK

15.40
AUDITORIUM B

ADM MEETING

19.30

SEMINARIO
MAGGIORE

GALA DINNER

DAY 3

8TH SEPTEMBER

TIME

09.00

PARALLEL SESSIONS

AUDITORIUM B

SESSION 10A
X-REALITY FOR
INTERACTIVE DESIGN

ROOM 103

SPECIAL SESSION 2
HUMAN CENTERED DESIGN
IN TRANSPORTATION
DOMAIN

ROOM 102

SESSION 11
ENGINEERING EDUCATION

ROOM 106

SESSION 13
DESIGN FOR
SUSTAINABILITY
AND ECODSIGN

11.00

COFFEE BREAK

11.30

SESSION 10B
X-REALITY FOR
INTERACTIVE DESIGN

SESSION 4
ARTIFICIAL INTELLIGENCE
IN DESIGN FOR
SUSTAINABILITY

SESSION 12
KNOWLEDGE AND
PRODUCT DATA
MANAGEMENT
& GEOMETRICAL PRODUCT
SPECIFICATION,
GEOMETRIC AND FUNCTIONAL
CHARACTERIZATION OF
PRODUCTS

SPECIAL SESSION 6
DESIGN OF BIOINSPIRED
SOFT ROBOTICS

13.00

GOODBYE LUNCH



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LOCATIONS



ADM CONFERENCE
MORGAGNI LEARNING CENTER

GALA DINNER
SEMINARIO MAGGIORE ARCIVESCOVILE

CITY CENTER

MORGAGNI LEARNING CENTER

Viale Giovanni Battista Morgagni, 40, 50134 Firenze FI





MORGAGNI LEARNING CENTER

Directions

From the Amerigo Vespucci Florence Airport:

- TAXI - Telephone numbers: 055.4242 / 055.4390 (15 min)
- Tramway (45 min): T2 Tramway Line from **Peretola Aeroporto** to **Alamanni Stazione - Central Railway Station** (direction **Unità**) + T1 Tramway Line from **Alamanni Stazione** to **Morgagni Università** (direction **Careggi-Ospedale**)
- Bus + Tramway combinations are available and might be faster, depending on the time

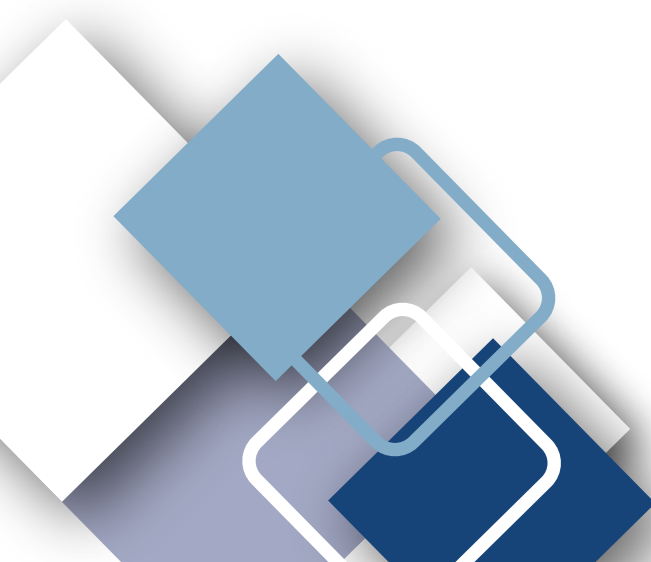
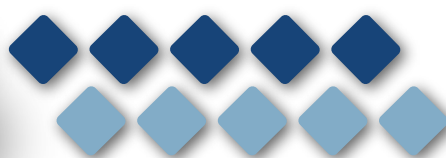
From the Santa Maria Novella Railway Station:

- T1 Tramway Line from **Alamanni Stazione** or **Valfonda** to **Morgagni Università** (15 min) (direction **Careggi -Ospedale**)

From the Firenze Rifredi Railway Station:

- 12 minute walk (direct train connections are easily available from **Firenze Santa Maria Novella** to **Firenze Rifredi**)

By car:

- Morgagni Learning Center can be easily reached by car. ADM 2023 participants can use the underground reserved parking lot. The access to the parking is on the Viale Morgagni side of the building, precisely in the middle of the building itself. Use the parking lot located at the first underground level and ring the “reception” bell upon arrival; the bell is on the wall on the right of the parking barrier.
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SEMINARIO MAGGIORE ARCIVESCOVILE

Lungarno Soderini, 19, 50124 Firenze FI



SEMINARIO MAGGIORE ARCIVESCOVILE

Storia

Il complesso architettonico che oggi ospita il seminario arcivescovile maggiore di Firenze era in origine il monastero femminile di Santa Maria degli Angeli eretto nel 1450 circa dal padre carmelitano Niccolò Siciliano per le “nostre Sorelle Bianche” consacrate alla regola del Carmelo. Le Sorelle Bianche erano alcune donne fiorentine che si proposero una vita Pia e religiosa chiedendo l'abito del Carmine dal provinciale dei carmelitani in Toscana. Fra queste pie donne si annovera la grande Santa Maria Maddalena della famiglia dei Pazzi, che morirà nel convento il 25 maggio 1607, dopo aver vissuto in esso esperienze spirituali e mistiche di straordinaria grandezza. Nel 1627 Papa Urbano VIII dispose di trasferire le carmelitane da San Frediano nel convento dei Cistercensi detto “il Cestello” che era in Borgo Pinti. I padri a loro volta avrebbero ricevuto la sede delle suore in San Frediano. All'inizio le suore osteggiarono questo cambio di sede: era troppo caro per loro il luogo dove si era consumata, nell'amore per Cristo, tutta la vicenda umana di Santa Maria Maddalena de Pazzi. Però la decisione era presa ed esse si trasferirono nel convento in Borgo Pinti.

I Cistercensi si insediarono qui l'8 settembre 1628. Il convento, rinominato “Cestello nuovo” per distinguerlo da quello di Borgo Pinti, fu oggetto di grandi lavori su progetto dell'architetto Gherardo Silvani, fratello dell'abate Salvatore. Oltre alla bonifica dell'area si disegnarono i due chiostri: quello grande e comunicante con la chiesa del cestello cioè la chiesa del convento e poi l'altro chiostro, più piccolo, oggi con la scultura dedicata a Santa Maria Maddalena de Pazzi (risalente al 1726) e realizzata da Antonio Montauti. Nel chiostro più grande c'è la statua di San Bernardo di Chiaravalle che calpesta il demonio (opera del 1702 di Giuseppe Piemontino). Dal chiostro piccolo si accedeva al refettorio (adesso aula magna) la cui destinazione originaria è ricordata dal grande affresco della parete frontale con: “la cena di Gesù dopo il digiuno nel deserto”, affresco realizzato da Bernardino Poccetti e commissionato dalle monache dopo la morte della Santa nei primi decenni del 1600. In seguito Pietro Leopoldo, che visitava spesso il cantiere, sollecitò la ristrutturazione della sala Capitolare che divenne refettorio; il quartiere al primo piano che aveva ospitato l'Abate divenne biblioteca e locali destinati al rettore; fu alzato un nuovo piano sul chiostro di Santa Maria Maddalena per avere altre camere per i seminaristi. Il seminario fu inaugurato qui il 31 ottobre 1784. Giunsero però nubi oscure a causa dell'arrivo delle truppe napoleoniche il 25 Marzo del 1799 a Firenze. A più riprese si tentò di requisire il convento per farvi un ospedale militare ma fu scampato il pericolo cedendo alcuni magazzini al piano terra. I soldati francesi poi si ritirarono ma i seminaristi poterono tornare solo nel 1815. Con l'arrivo poi a Firenze delle truppe austriache nel 1849 essi dovettero abbandonare di nuovo la loro sede recandosi in spazi messi a disposizione da Marchesi Antinori. Lo stabile incustodito fu occupato dai soldati imperiali austroungarici che vi fecero magazzini e ospedale militare con lunghi anni di danni. I seminaristi poterono tornare solo nel 1858 ma con le leggi del 1865 il Regno d'Italia decise di espropriare l'edificio. Nel 1866 si vide che non era possibile far diventare il seminario un ministero a causa delle troppe spese necessarie e l'edificio fu restituito. Tra il 1903 e il 1905 il Cardinal Mistrangelo aggiunse l'ala sinistra con vaste aule per lo studio dei seminaristi. Dal 1915 al 1919 il seminario ospitò in tutto il complesso un ospedale militare per i feriti della prima guerra mondiale.

Le più grandi acquisizioni culturali si ebbero nel 1800 con la presenza del rettore monsignor dall'Ogna che nell'anno 1813 riuscì a ritrovare ed acquisire il Codice Rustici, opera redatta intorno al 1450 dall'orafo fiorentino Marco di Bartolomeo Rustici in cui egli narra il suo viaggio in Terra Santa corredato di disegni acquerellati che sono insostituibile testimonianza del tessuto urbano di quell'epoca. Monsignor dall'Ogna aumentò la ricca biblioteca portata qui dai Cistercensi. Essa è qualcosa di straordinario: fu fondata il 21 dicembre 1783 e vanta una raccolta di incunaboli straordinari, di preziose rare edizioni del 500 e del 600.

Il seminario ha visto fra i suoi allievi figure grandi di studiosi di uomini di cultura e grandi figure di pastore come monsignor Bartoletti, don Lorenzo Milani, il cardinal Piovaneli e tanti altri sacerdoti che hanno servito l'Arcidiocesi e la Chiesa tutta. Fra di loro si deve sottolineare anche la presenza di una figura cara al tessuto e alla storia di San Frediano: don Danilo Cubattoli, vero apostolo di queste zone e prezioso conoscitore del popolo che si mise a servizio soprattutto della gioventù del quartiere durante e dopo la seconda guerra mondiale. Attualmente il seminario ospita giovani che si preparano al sacerdozio di un'età che varia dai 21 ai 48 anni appartenenti a 5 diocesi toscane (Firenze, Prato, San Miniato, Pistoia, Grosseto, Pitigliano-Sovana-Orbetello). Essi si preparano, vivendo in comunità e studiando nella Facoltà Teologica che si trova qui vicino, a portare avanti l'opera di evangelizzazione nelle loro diocesi raccogliendo il testimone di tanti sacerdoti, formati qui al Cestello, che in libertà e goiso spirito di servizio hanno annunciato il vangelo servendo le proprie comunità.

SEMINARIO MAGGIORE

ARCIVESCOVILE

History

The architectural complex that now houses the Archbishop's Major Seminary of Florence was originally the women's monastery of Santa Maria degli Angeli, built around 1450 by the Carmelite friar Niccolò Siciliano for the "Sorelle Bianche" dedicated to the rule of Carmel. The "Sorelle Bianche" were a group of Florentine women who pursued a pious and religious life, requesting the Carmelite habit from the provincial of the Carmelites in Tuscany. Among these devout women is the great Saint Maria Maddalena of the Pazzi family, who passed away in the convent on May 25, 1607, after experiencing extraordinary spiritual and mystical events there.

In 1627, Pope Urban VIII ordered the transfer of the Carmelites from San Frediano to the Cistercian convent known as "il Cestello" located in Borgo Pinti. The Carmelites, in turn, received the space of the nuns at San Frediano. Initially, the nuns opposed to this change of location as the place where the entire human journey of Saint Maria Maddalena de' Pazzi's love for Christ had unfolded. However, the decision was made, and they relocated to the convent in Borgo Pinti.

The Cistercians established themselves here on September 8, 1628. The convent, renamed "Cestello nuovo" to distinguish it from the one in Borgo Pinti, underwent significant renovations based on the design of the architect Gherardo Silvani, the brother of the abbot Salvatore. Aside from the land reclamation, two cloisters were designed: the larger one, connected to the Cestello church and another smaller cloister, which now features the sculpture dedicated to Saint Maria Maddalena de' Pazzi (1726) created by Antonio Montauti. In the larger cloister stands the statue of Saint Bernard of Clairvaux trampling the devil (a work from 1702 by Giuseppe Piemontino). The smaller cloister provided access to the refectory (now the great hall), whose original purpose is commemorated by the large fresco on the front wall depicting "Jesus' meal after fasting in the desert." This fresco was created by Bernardino Poccetti and commissioned by the nuns after the death of the Saint in the early 1600s. Subsequently, Pietro Leopoldo, who frequently visited the site, prompted the transformation of the Chapter House into a refectory; the quarters on the first floor that had housed the Abbot were turned into a library and rooms for the rector. A new floor was added to the cloister of Saint Maria Maddalena to accommodate more rooms for the seminarians. The seminary was inaugurated here on October 31, 1784. However, dark clouds loomed with the arrival of Napoleonic troops in Florence on March 25, 1799. On several occasions, attempts were made to requisition the convent for a military hospital, but the danger was averted by ceding some ground floor warehouses. The French soldiers eventually withdrew, but the seminarians could only return in 1815. With the arrival of Austrian troops in Florence in 1849, they had to abandon their headquarters once again and were accommodated in spaces provided by the Antinori Marchesi. The unguarded building was taken over by Austro-Hungarian imperial soldiers, who turned it into warehouses and a military hospital, causing extensive damage over the years. The seminarians could only return in 1858, but with the laws of 1865, the Kingdom of Italy decided to expropriate the building. In 1866, it was realized that converting the seminary into a ministry was impractical due to the excessive costs, and the building was returned. Between 1903 and 1905, Cardinal Mistrangelo added the left wing with spacious classrooms for the seminarians' studies. From 1915 to 1919, the seminary hosted a military hospital for World War I wounded throughout the complex.

The most significant cultural acquisitions occurred in the 1800s with the presence of Monsignor dall'Ogna, the rector who, in 1813, managed to locate and acquire the Codice Rustici, a work written around 1450 by the Florentine goldsmith Marco di Bartolomeo Rustici. In this codex, he narrates his journey to the Holy Land, accompanied by watercolor drawings that are invaluable evidence of the urban fabric of that era. Monsignor dall'Ogna enriched the already substantial library brought here by the Cistercians. This library is extraordinary: it was founded on December 21, 1783, and boasts a collection of extraordinary incunabula, precious rare editions from the 1500s and 1600s.

The seminary has had among its students great figures, scholars, and cultural leaders, as well as prominent pastoral figures like Monsignor Bartoletti, Don Lorenzo Milani, Cardinal Piovanelli, and many other priests who have served the Archdiocese and the Church as a whole. Among them, it is worth highlighting the presence of a figure dear to the fabric and history of San Frediano: Don Danilo Cubattoli, a true apostle of these areas and a precious connoisseur of the people who dedicated himself, especially to the youth of the neighborhood, during and after World War II. Currently, the seminary hosts young individuals aged 21 to 48, preparing for priesthood, from 5 Tuscan dioceses (Florence, Prato, San Miniato, Pistoia, Grosseto, Pitigliano-Sovana-Orbetello). They prepare by living in community and studying at the nearby Theological Faculty to continue the work of evangelization in their dioceses, carrying on the legacy of many priests who were trained here at Cestello and who, in freedom and joyful spirit of service, proclaimed the Gospel by serving their communities.

SEMINARIO MAGGIORE ARCIVESCOVILE

Directions

From the Morgagni Learning Center:

- Public Transport
T1 Tramway Line from **Morgagni Università** to **Alamanni Stazione** (Central Railway Station) - direction **Villa Costanza** + 15 min walk

From the City Center / Santa Maria Novella Railway Station:

- 15 min walk from the **Santa Maria Novella Railway Station**.
- Bike/Scooter sharing services
- TAXI - Telephone numbers: 055.4242 / 055.4390



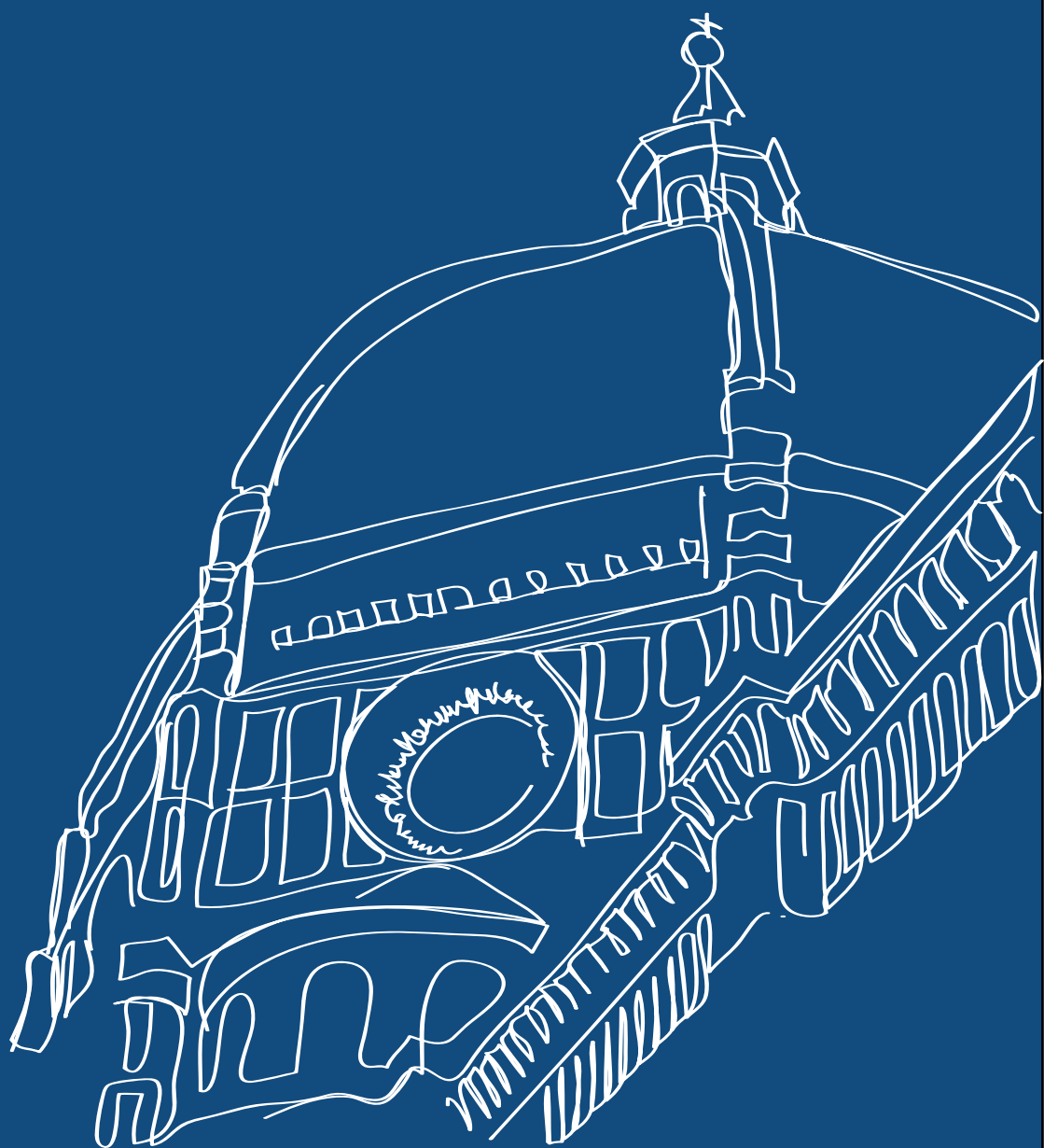
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CONFERENCE VENUE



MORGAGNI LEARNING CENTER

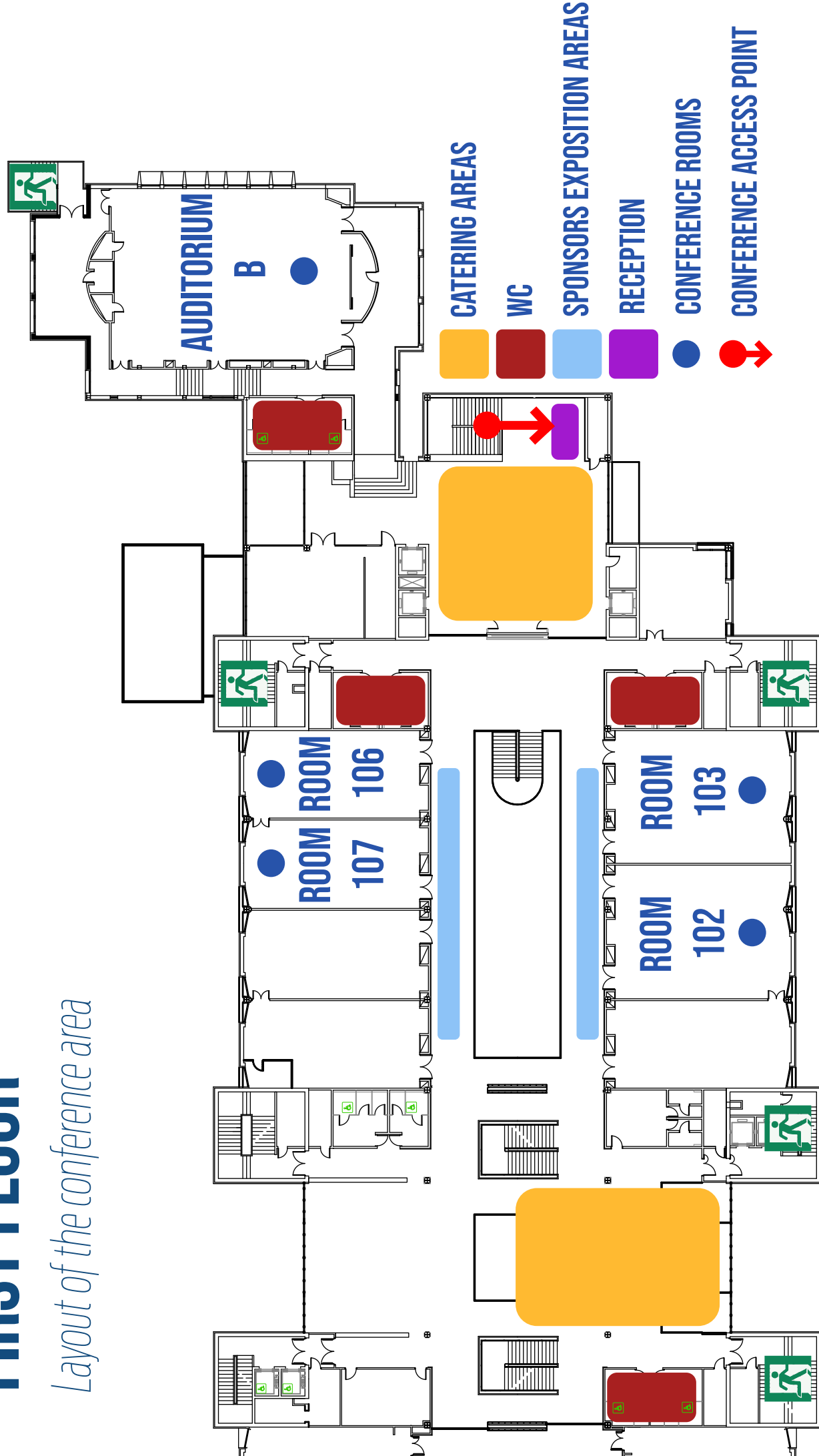
ADM 2023 Conference venue

The ADM 2023 conference is located on the first floor of the Morgagni Learning Center. Participants can enter from the main entrance of the Morgagni Learning Center and take the first ramp of stairs on the right.



FIRST FLOOR

Layout of the conference area





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SOCIAL EVENTS



GALA DINNER

7th September @ Seminario Maggiore Arcivescovile

We will meet at the Seminario Maggiore Arcivescovile of Florence at 19.30 on the 7th of September for an elegant and pleasant dinner. The seminary is nestled in the heart of the city and embraced by the Arno river. A nice walk across the beautiful city center is the best way to start the evening and reach the dinner venue. A delicate musical entertainment will brighten the evening for all the guests.





GUIDED TOUR: “PASSEGGIATA MATEMATICA”

7th September @ Piazza del Duomo

Participants not engaged in the scientific activities of the ADM 2023 conference are invited to join in a “Passeggiata Matematica” - literally “Mathematical walk” across the city center. **Giuseppe Conti**, professor of Mathematical Analysis at the University of Florence and author of several books on the history of Florence architecture, will guide the tour. Participants will discover the hidden mathematical rules and laws that define beauty and architecture while exploring the city center. **Meeting point: Piazza del Duomo, behind the apse of the church at 10.30 AM, 7th September.**





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ABOUT FLORENCE



MOVING AROUND FLORENCE

General advice

Florence city center is pedestrianized and a Limited Traffic Zone (ZTL) regulates the access to the surrounding areas. Mopeds and motorcycles can access the ZTL at any time.

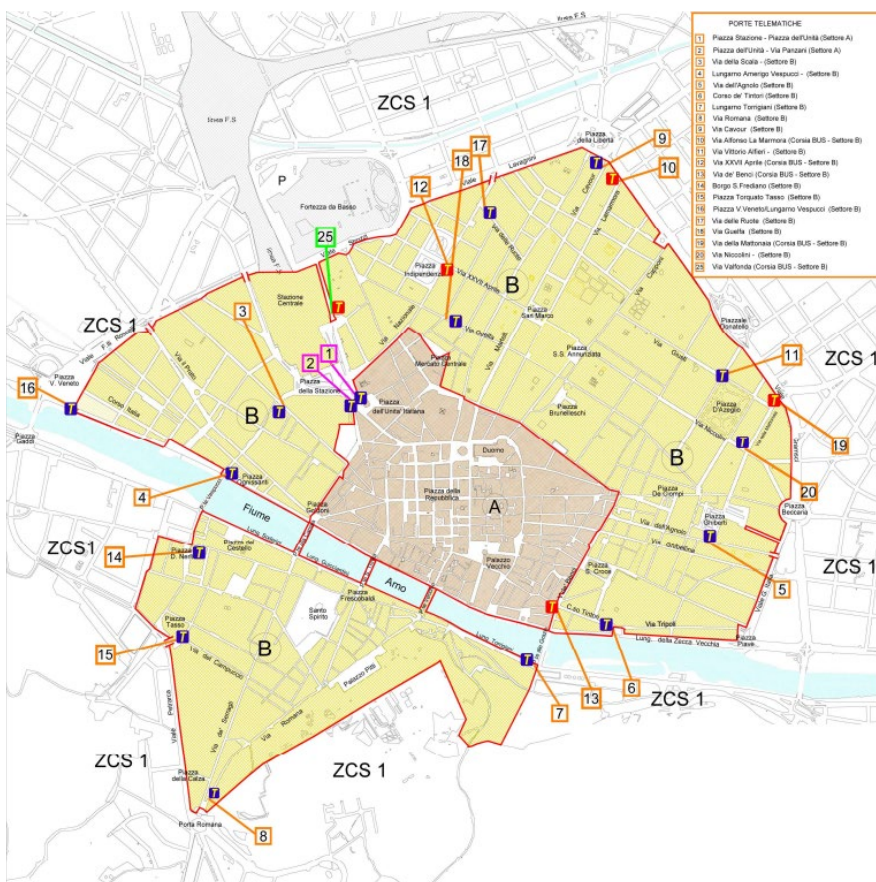
If you are staying in a hotel within the ZTL, you can usually access it and drive to the hotel to unload your luggage, but then you have to leave the ZTL and look for parking outside, unless the place where you are staying offers it.

Always check before you arrive that the hotel (or where you have booked your stay) communicates your license plate to the authorities for it to be placed on the “white list”. Same for the garages located inside the ZTL.

The city center - where most of the tourist attractions and historic sites are located - is quite small and can be easily visited on foot. Bike-sharing and scooter-sharing services are available and can be useful to reach locations outside the center area.



FLORENCE ZTL



Yellow area: restricted access to cars
Orange area: pedestrian-only access

FLORENCE TRAMWAY

General advice



Tickets can be purchased via:

- TABNET app
- Vending machines located at many tramway stops

Watch out: physical tickets must be validated on board, electronic tickets must be validated in the app after purchase.



TABNET app



BIKE / SCOOTER SHARING

ridemovi

BitMobility

Ridemovi is the bike sharing service active in the Florence urban territory. *Bit Mobility* is the scooter sharing service.

Both are valid alternatives to public transport.

Watch out: the Florentine administration issued an ordinance to make the use of a helmet when riding a scooter **mandatory**!

link to the ridemovi app



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