



**Università
degli Studi
di Ferrara**



**Laboratory for
Nuclear Technologies**
Applied to the Environment



**Fall 2022 JUNO European-
American collaboration meeting**

Welcome

Ferrara - 24-28 October 2022

Where are you?

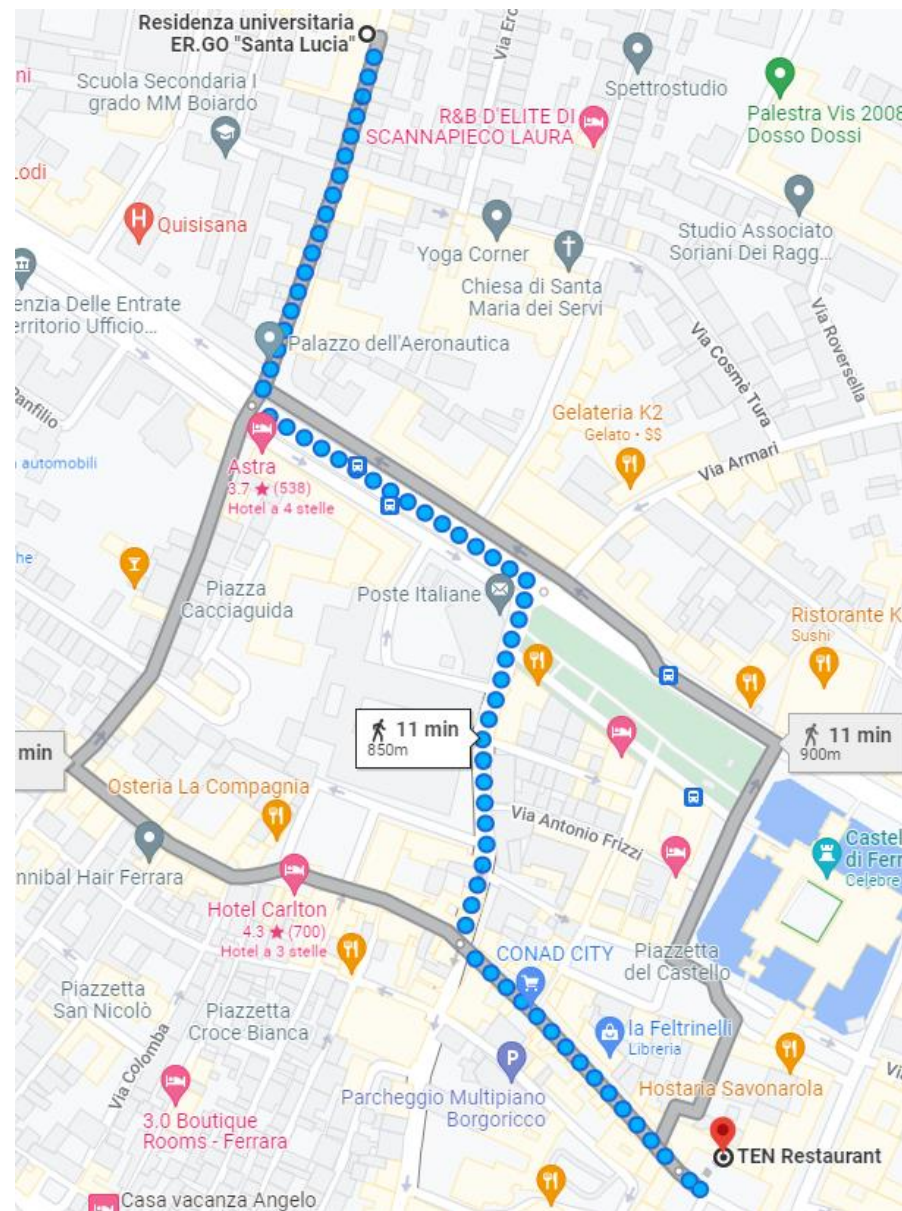


- Headquarter of University of Ferrara, founded on 1391 marquis Alberto V D'Este with the permission of Pope Boniface IX.
- Presently University of Ferrara is organized in 13 Departments: 1228 professors and researches, 534 administrative employees and about 25.200 students
- **Santa Lucia church** was built in 1537 by duke Ercole II d'Este.
- We are in the **Dominican nuns' monastery** which was closed in 1903, subsequently used for the boys' orphanage and for high school until the end XX century.

Welcome and introduction	<i>Fabio Mantovani</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	10:30 - 10:35
Armenia 10'	<i>Ara Ioannisian</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	10:35 - 10:45
Belgium 10'	<i>Barbara Clerbaux</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	10:45 - 10:55
Croatia 10'	<i>Budimir Kliček</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	10:55 - 11:05
Czech Republic 10'	<i>Vit Vorobel</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	11:05 - 11:15
Finland 10'	<i>Wladyslaw Trzaska</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	11:15 - 11:25
France 10'	<i>Marcos Dracos</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	11:25 - 11:35
Germany 10'	<i>Achim Stahl</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	11:35 - 11:45
Italy 10'	<i>Gioacchino Ranucci</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	11:45 - 11:55
MSU&INR 10'	<i>Alexander Studenikin</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	11:55 - 12:05
JINR 10'	<i>Yury Malyshkin</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	12:05 - 12:15
Slovakia 10'	<i>Fedor Simkovic</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	12:15 - 12:25

Lunch - 24/10/2022 - 12:25 – 14:00

24 October morning

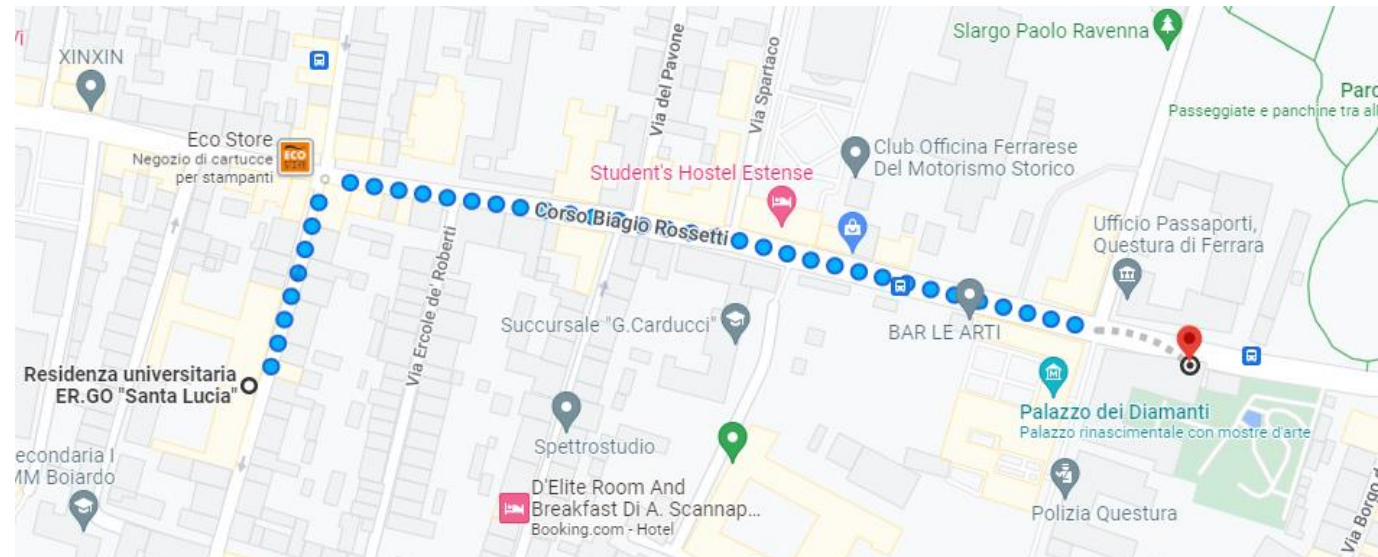


TEN Restaurant – Piazza del Municipio 20 – 44122 Ferrara

24 October afternoon

- Young scientist – JUNO meeting: headquarter of University of Ferrara
- PI's & senior discussion on analysis: University Institute for Higher Studies (IUSS) building

Aula Magna del Rettorato, University of Ferrara		12:25 - 14:00
Status update of OSIRIS		Kai Loo
Aula Magna del Rettorato, University of Ferrara		14:00 - 14:15
OSIRIS Onsite Work		Moritz Cornelius Vollbrecht et al.
Aula Magna del Rettorato, University of Ferrara		14:15 - 14:30
Unfolding of the supernova burst neutrino spectrum		Thilo Birkenfeld
Aula Magna del Rettorato, University of Ferrara		14:30 - 14:50
Supernova		Claudio Lombardo
Aula Magna del Rettorato, University of Ferrara		14:50 - 15:10
Supernova neutrino light curve studies		Marta Colomer Molla
Aula Magna del Rettorato, University of Ferrara		15:10 - 15:20
Atmospheric neutrinos in JUNO		Mariam Rifai et al.
Aula Magna del Rettorato, University of Ferrara		15:20 - 15:40
Directional analysis of CNO solar neutrinos in JUNO: preliminary MC approach and strategy for combination with MV fit		Apeksha Singhal
Sensitivity to 7Be, pep, CNO solar neutrinos fluxes and time modulations		Davide Basilico
Aula Magna del Rettorato, University of Ferrara		16:00 - 16:20
Americas 10'		J. Pedro Ochoa-Ricoux
Aula Magna del Rettorato, University of Ferrara		16:20 - 16:30
Coffee Break - 24/10/2022 - 16:30 – 16:50		
Aula Magna del Rettorato, University of Ferrara		16:30 - 16:50
DCI - Distributed Computing Infrastructure		Giuseppe Andronico
Aula Magna del Rettorato, University of Ferrara		16:50 - 17:10
Update on SHELDON		Marco Beretta
Aula Magna del Rettorato, University of Ferrara		17:10 - 17:30
Optical properties of the JUNO liquid scintillator		Gioele Reina
Aula Magna del Rettorato, University of Ferrara		17:30 - 17:50
Young scientist in JUNO meeting: Young Scientist in JUNO		PI's & seniors discussion on analysis: PI's & seniors discussion on analysis
Aula Magna del Rettorato, University of Ferrara		17:50 - 19:00
Aula Magna del Rettorato, University of Ferrara		17:50 - 19:00



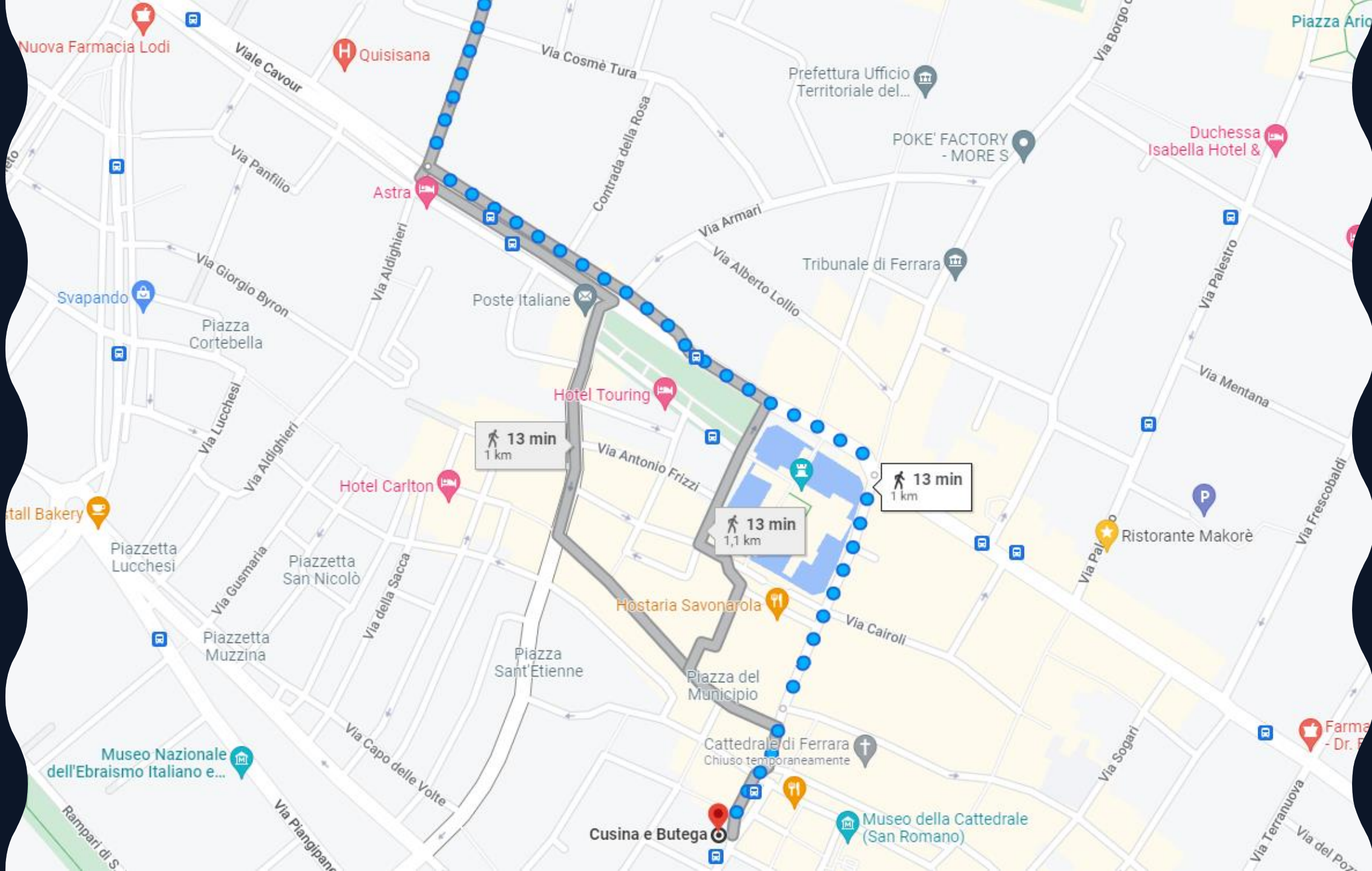
IUSS - Sede Palazzo Turchi di Bagno – Corso Porta Mare 2 – 44122 – Ferrara

24 October
evening

Social dinner

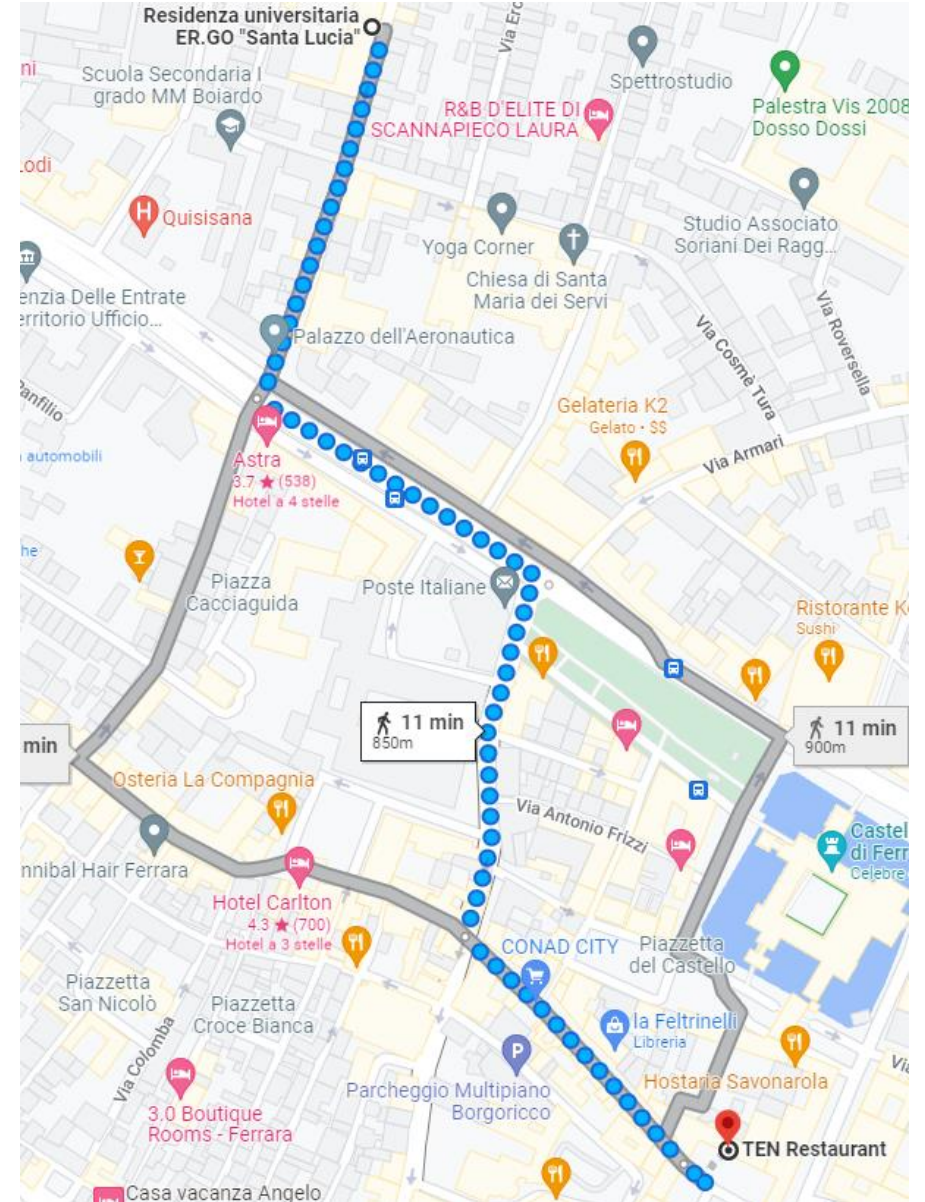
Cusina e Butega
Restaurant
Corso Porta Reno
28 - Ferrara





25 October morning

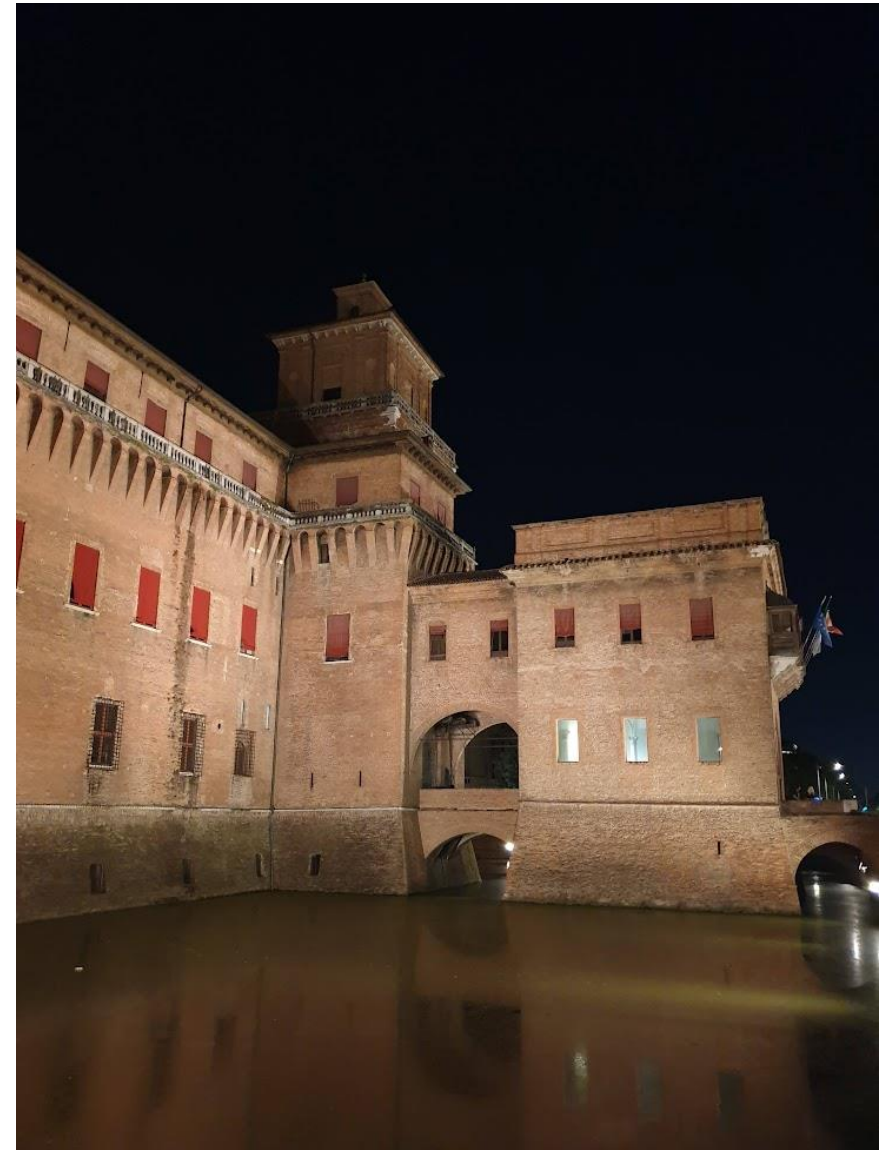
Progress on the full Monte Carlo production of IBD-like spectral components and geoneutrino sensitivity studies <i>Anita Meraviglia</i>		
Modelling the unoscillated antineutrino spectrum	<i>Beatrice Jelmini</i>	09:20 - 09:40
<i>Aula Magna del Rettorato, University of Ferrara</i>		
Reactor antineutrino spectrum production	<i>Davide Chiesa</i>	09:40 - 09:50
<i>Aula Magna del Rettorato, University of Ferrara</i>		
Fitting the oscillated reactor spectrum	<i>Andrea Serafini</i>	09:50 - 10:10
<i>Aula Magna del Rettorato, University of Ferrara</i>		
NMO sensitivity studies with MASFit (Milano Antineutrino Spectrum FITter)	<i>Elisa Percalli</i>	10:10 - 10:30
<i>Aula Magna del Rettorato, University of Ferrara</i>		
JUNO sensitivity to NMO and oscillation parameters with MC	<i>Maxim Gonchar</i>	10:30 - 10:50
<i>Aula Magna del Rettorato, University of Ferrara</i>		
Coffee Break - 25/10/2022 - 10:450 – 11:10		
<i>Aula Magna del Rettorato, University of Ferrara</i>		
Energy reconstruction and particle identification for atmospheric neutrino events using GCNs	<i>Rosmarie Wirth</i>	11:10 - 11:30
<i>Aula Magna del Rettorato, University of Ferrara</i>		
Update on waveform reconstruction	<i>Michaela Schever</i>	11:30 - 11:45
<i>Aula Magna del Rettorato, University of Ferrara</i>		
Status of the integration of the SPMT system	<i>Cedric Cerna</i>	11:45 - 12:05
<i>Aula Magna del Rettorato, University of Ferrara</i>		
Mass testing of the LPMT Electronics	<i>Katharina Caecilie Von Sturm Zu Vehlingen</i>	12:05 - 12:25
<i>Aula Magna del Rettorato, University of Ferrara</i>		
Lunch - 25/10/2022 - 12:30 – 14:00		



TEN Restaurant – Piazza del Municipio 20 – 44122 Ferrara

25 October afternoon

<i>Aula Magna del Rettorato, University of Ferrara</i>	12:25 - 14:00
Top Tracker Electronics	<i>Alessandro Paoloni</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	14:00 - 14:20
TT concentrator & global trigger board	<i>Florian Fritch et al.</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	14:20 - 14:40
Prototype studies	<i>Pathirahage Shamilka Deshan Sandanayake</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	14:40 - 15:00
TT offline software	<i>Rebin Karaparambil</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	15:00 - 15:20
TT Online	<i>Denis Korablev</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	15:20 - 15:40
TT Mechanics and installation	<i>Yuri Gornushkin</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	15:40 - 16:00
Coffee Break - 25/10/2022 - 16:00 – 16:20	
<i>Aula Magna del Rettorato, University of Ferrara</i>	16:00 - 16:20
SiPM - TAO	<i>Claudio Lombardo</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	16:20 - 16:40
TAO Status	<i>Stefano Maria Mari</i>
<i>Aula Magna del Rettorato, University of Ferrara</i>	16:40 - 17:00



26 October

Analysis Meeting @ Fall 2022 JUNO EU

Wednesday 26 Oct 2022, 10:00 → 18:20 Europe/Rome

Auditorium del Rettorato (University of Ferrara)

Description The Analysis meeting will be held in Ferrara, 26th October 2022.
It aims to coordinate the efforts made by each national analysis group. The main topics will be:

- IBD Analysis
- Calibration
- Solar Neutrinos
- Geo-neutrinos
- Data Production
- etc

Michele Montuschi montuschi@fe.infn.it
+39 392 8496592

10:00 → 11:20	MC production of signals and background: MC parameters	
10:00	Impact of JUNO scintillator parameters in SNIPER Speaker: Marco Malabarba	20m
10:20	Discussion on Liquid Scintillator fluorescence parameters discussion Speaker: Federico Ferraro (Istituto Nazionale di Fisica Nucleare)	20m
10:40	Exploiting calibration data to understand the energy scale Speaker: Rosa Maria Guizzetti	20m
11:00	Positron energy reconstruction using machine learning Speaker: Arsenii Gavrikov (HSE, JINR)	20m
11:20 → 11:40	Break	20m
11:40 → 12:40	IBD and Reactor	
11:40	Reactor antineutrinos Speakers: Davide Chiesa (Istituto Nazionale di Fisica Nucleare), Lorenzo Loi	20m
12:00	Reactor antineutrinos technical discussion	20m

12:40 → 14:20	Lunch	1h 40m
14:20 → 15:20	Fit strategy, minimisation, range of fit parameters: NMO Sensitivity	
14:20	JUNO sensitivity to NMO with subdetectors Speaker: Dmitry Dolzhikov	20m
14:40	NMO sensitivity studies with MASFit (Milano Antineutrino Spectrum FITter) - Technical Detail and Discussion Speaker: Elisa Percalli	40m
15:20 → 15:40	MC production of signals and background: MC Input	
15:20	Last results of the measurements for the verification of the radiopurity of the scintillator Speaker: Andrea Barresi (Istituto Nazionale di Fisica Nucleare)	20m
15:40 → 16:00	Break	20m
16:00 → 17:00	Atmospheric and Solar Neutrinos: Solar Neutrinos	

Headquarter of University of Ferrara
Via L. Ariosto 35 – 44121- Ferrara

27-28 October - JUNO DCI Hands-on Workshop

JUNO DCI Hands-on Workshop @ Fall 2022 JUNO EU

27 Oct 2022, 09:00 → 28 Oct 2022, 18:00 Europe/Rome

Auditorium del Rettorato (University of Ferrara)

Giuseppe Andronico (Istituto Nazionale di Fisica Nucleare), João Pedro Athayde Marcondes de André (IPHC/IN2P3/CNRS)

Description The JUNO DCI Hands-on Workshop will be held in Ferrara, 27-28 October 2022.

If you are registered for JUNO DCI, please contact tutors at this mailing list at your earliest convenience: juno-dci-training@lists.infn.it

Michele Montuschi montuschi@fe.infn.it
+39 392 8496592

THURSDAY, 27 OCTOBER

09:00 → 09:20 **Introduction to JUNO DCI**

Speaker: Giuseppe Andronico (Istituto Nazionale di Fisica Nucleare)

20m

09:20 → 12:20 **Grid certificates and VOMS**

Lesson about grid certificates and VOMS

Speaker: Agnese Martini (Istituto Nazionale di Fisica Nucleare)

3h

12:20 → 14:00

Lunch break

1h 40m

14:00 → 14:30 **DIRAc web Interface**

How to register and enter in DIRAc web interface

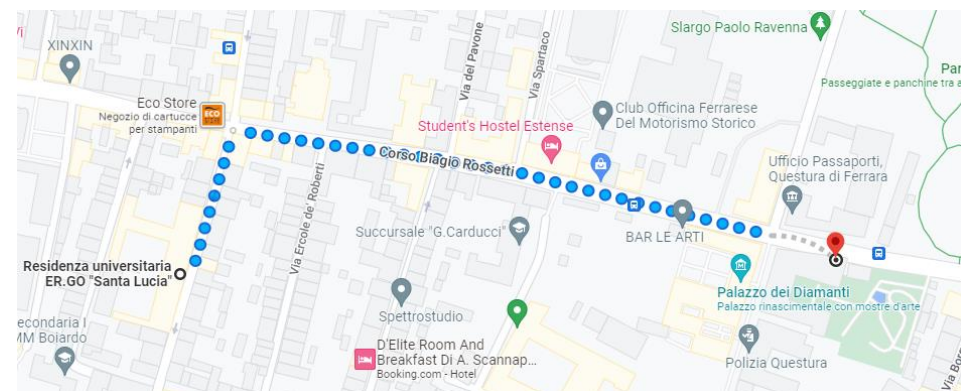
Speaker: Giuseppe Andronico (Istituto Nazionale di Fisica Nucleare)

30m

14:30 → 18:00 **Data Management System**

Speaker: Giuseppe Andronico (Istituto Nazionale di Fisica Nucleare)

3h 30m



**IUSS - Sede Palazzo Turchi di Bagno – Corso
Porta Mare 2 – 44122 – Ferrara**

Chairman list

Monday 24th October 2022 - JUNO EU-AM Meeting First Day

- Giacchino Ranucci on Monday 24th October 10.30 - 12.25
- Andrea Serafini on Monday 24th October 14.00 - 16.30
- Katharina von Sturm on Monday 24th October 16.50 - 17.50

Tuesday 25th October 2022 - JUNO EU-AM Meeting Second Day

- Cecile Jollet on Tuesday 25th October 09.00 - 10.50
- Barbara Caccianiga on Tuesday 25th October 11.10 - 12.25
- Marcos Dracos on Tuesday 25th October 14.00 - 16.00
- Kai Loo on Tuesday 25th October 16.20 - 17.00

Wednesday 26th October 2022 - JUNO Analysis Workshop

- Livia Ludhova on Wednesday 26th October 10.00 - 12.40
- Marco Grassi on Wednesday 26th October 14.20 - 16.20

Please stay on schedule!



Have a nice time in Ferrara

