

INTERNATIONAL EURASIP(European Association for Signal Processing) - ERASMUS+ PHD SUMMER SCHOOL "MATHEMATICS AND MACHINE LEARNING FOR IMAGE ANALYSIS"

ERASMUS+ International PhD Summer School 2026

Lecturers

Xue-Cheng Tai
Norwegian Research Center (NORCE)
[A mathematical approach to machine learning in imaging](#)

Ivan Selesnick
NYU, New York US
[Frequency-domain and sparsity in signal/image analysis](#)

Nelly Pustelnik
École Normale Supérieure de Lyon
[Optimization-based machine learning for computational imaging](#)

Barbara Pascal
CNRS, LS2N, Nantes, France
[Multi-resolution in image analysis](#)

Martin Burger
Universität Hamburg
[Regularisation and learned regularisation for inverse problems](#)



ERASMUS+ INTERNATIONAL PHD SUMMER SCHOOL

Mathematics and Machine Learning for Image Analysis

9 – 17 June 2026

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OVERVIEW

LECTURERS

TOPICS

SEMINARS

SCHEDULE

ERASMUS+ PARTNERS

ORGANIZERS & CONTACTS

VENUES

REGISTRATION



INTERNATIONAL EURASIP – ERASMUS+ PHD SUMMER SCHOOL "MATHEMATICS AND MACHINE LEARNING FOR IMAGE ANALYSIS", Bologna, 9 – 17 June 2026

The Summer School aims to address cross-cutting mathematical approaches in imaging sciences and machine/deep learning, which are essential for young PhD students and researchers interested in exploring the fascinating connections between these disciplines. The school aims to provide students with both theoretical and applied foundations in the mathematics of machine learning for imaging, along with an overview of challenging applications.



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA | DEPARTMENT
OF MATHEMATICS

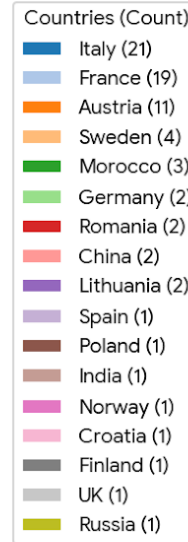
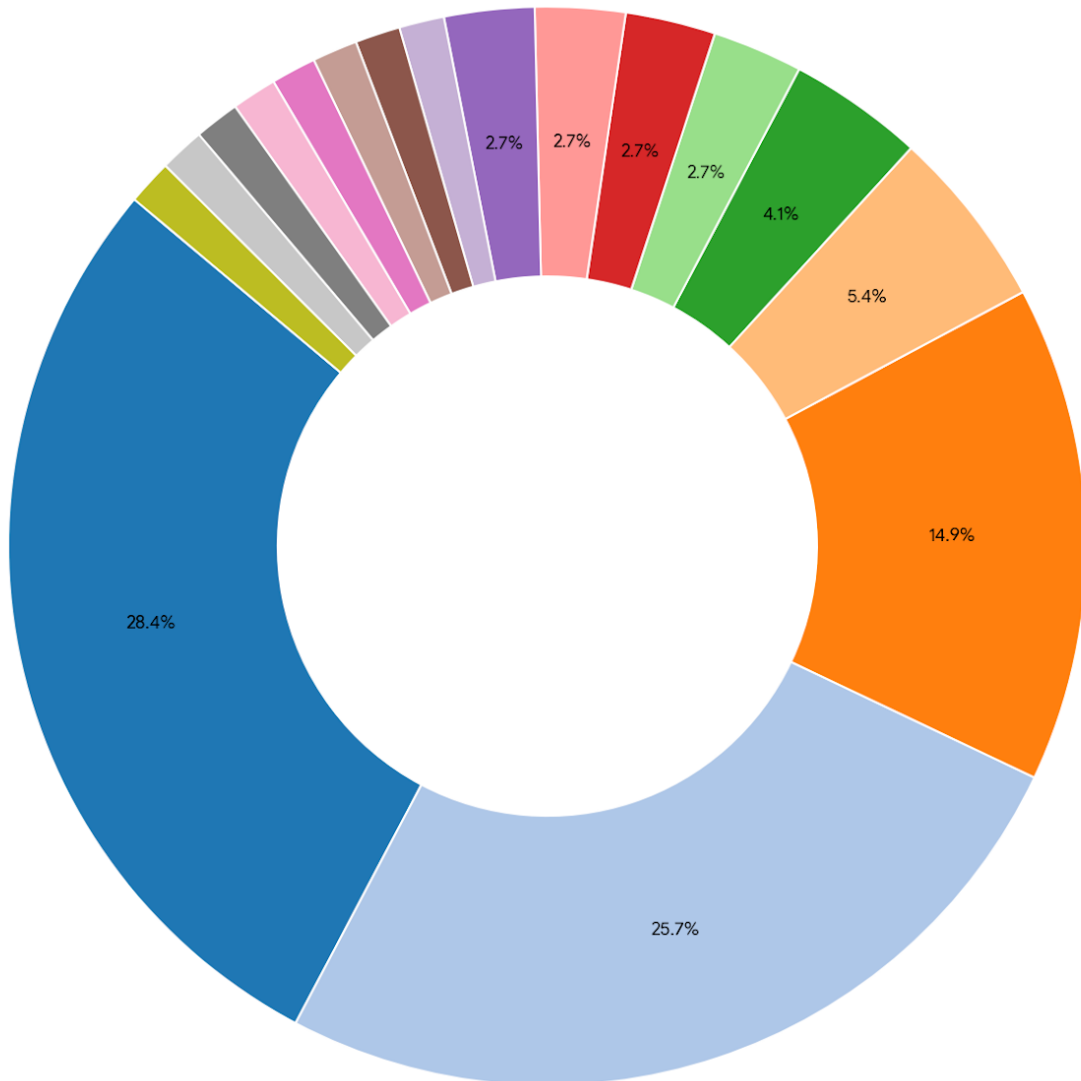


EURASIP
EUROPEAN ASSOCIATION
FOR SIGNAL PROCESSING

**Erasmus+ Programme Inter-institutional agreement****Key Action 1 Learning mobility for higher education students and staff**

Name of the Institution	Erasmus code	Role
Karl-Franzens-Universität Graz	A GRAZ01	Partner – Sending Institution
Klagenfurt University	A KLAGENF01	Partner – Sending Institution
Johannes Kepler Universität Linz	A LINZ01	Partner – Sending Institution
Universität Hamburg	D HAMBURG01	Partner – Sending Institution
École normale supérieure de Lyon	F LYON103	Partner – Sending Institution
ECN - ÉCOLE CENTRALE DE NANTES	F NANTES07	Partner – Sending Institution
Université Côte d'Azur	F NICE42	Partner – Sending Institution
CentraleSupélec / Université Paris-Saclay	F GIF-YVE03 and F PARIS481	Partner – Sending Institution
Université de Toulouse	F TOULOUS03	Partner – Sending Institution
Universitatea Națională de Știință și Tehnologie POLITEHNICA București (POLITEHNICA Bucharest)	RO BUCURES43	Partner – Sending Institution
Kungliga Tekniska Högskolan	S STOCKHO04	Partner – Sending Institution
Helsingin Yliopisto	SF HELSINK01	Partner – Sending Institution
Oulun Yliopisto	SF OULU01	Partner – Sending Institution
Tampereen korkeakoulusäätiö sr	SF TAMPERE17	Partner – Sending Institution
Slovenská Technická Univerzita v Bratislave	SK BRATISLO1	Partner – Sending Institution
Alma Mater Studiorum – Università di Bologna	I BOLOGNA01	Coordinator – Receiving Institution

Distribution of Participants by Country



Country	Number of Participants	Percentage
Italy	21	28.4%
France	19	25.7%
Austria	11	14.9%
Sweden	4	5.4%
Morocco	3	4.1%
Germany	2	2.7%
Romania	2	2.7%
China	2	2.7%
Lithuania	2	2.7%
Croatia	1	1.4%
Finland	1	1.4%
India	1	1.4%
Norway	1	1.4%
Poland	1	1.4%
United Kingdom (UK)	1	1.4%
Russia	1	1.4%
Spain	1	1.4%
TOTAL	74	100%

17 different countries represented

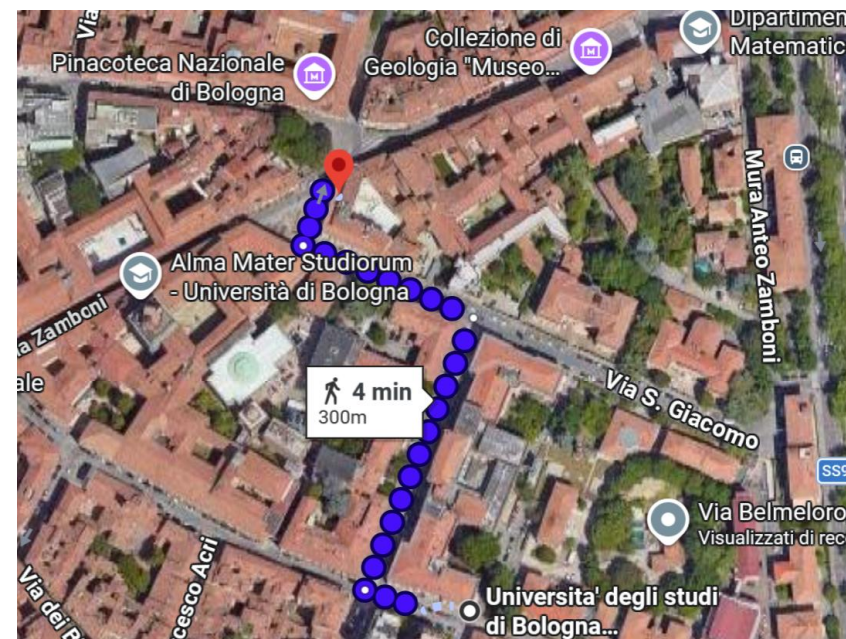
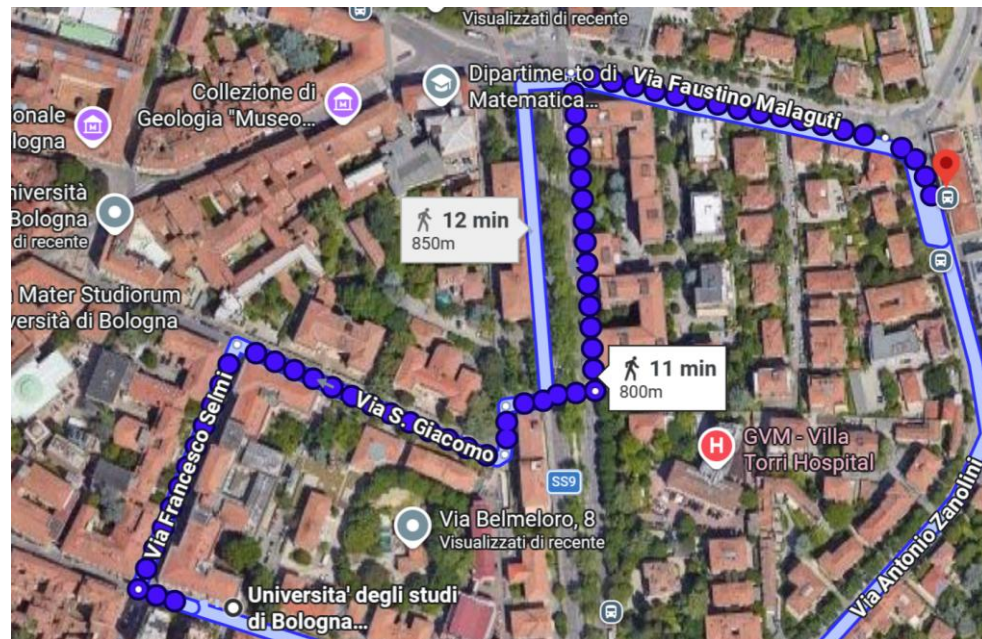
MEAL VOUCHERS

Non-local students will find 6 vouchers on their student badge for two different university canteens (one per day), which must be presented at the checkout.

International Ph.D. Summer School 2026 / June 9 - 17, 2026
Mathematics and Machine Learning for Image Analysis
MEAL TICKET valid for 1 meal
to be used only on June 10, 11, 12, 15, 16 and 17, 2026
at "**Mensa Irnerio**" Piazza Puntoni, 1 - Bologna
or at "**Veneta**" Via Antonio Zanolini, 41 - Bologna



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA | DIPARTIMENTO
DI MATEMATICA



Social Dinner



when? Tuesday 16/06/2026

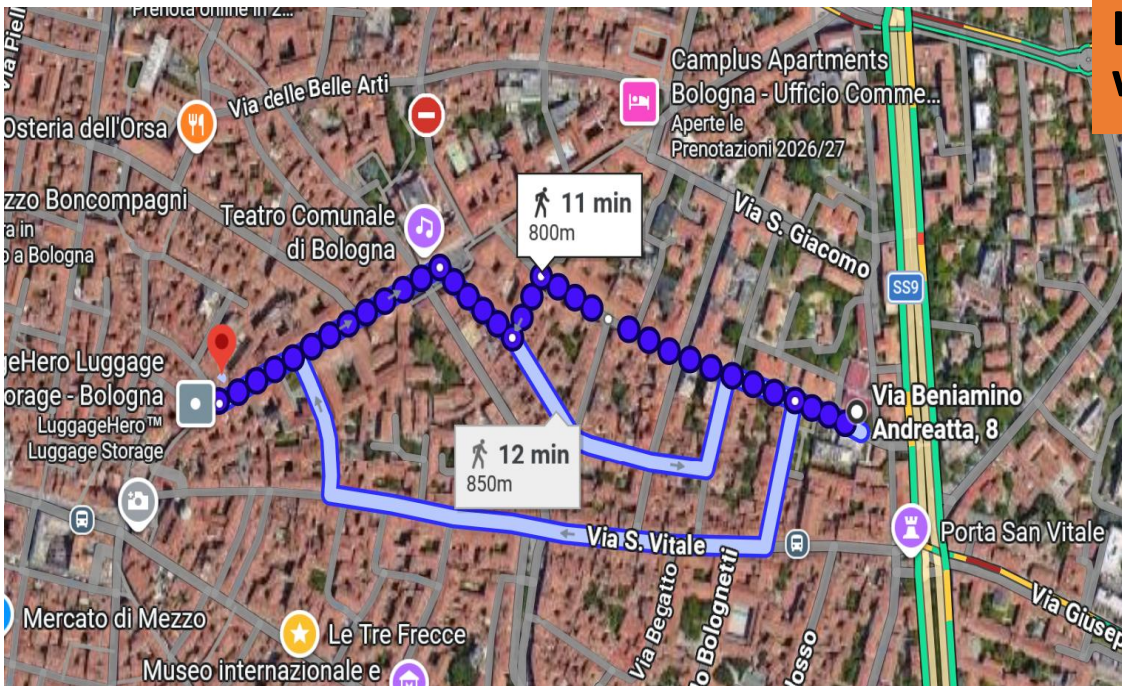
where? Lab16, Via Zamboni, 16/D 40126 Bologna BO

What's the price? 25 Euros (including drinks, aperitivo, first courses, and desserts)

ACTION REQUIRED:

Please register your name at the reception desk.

Let's meet at 7 PM outside the Belmeloro building, where we usually have class.



Attendance Registration

Daily signatures are required to certify attendance for both the morning and afternoon sessions.

All participants who exceed 70% attendance will be awarded a

Certificate of Participation
upon completion of the course.

FINAL EXAM

4 ECTS

Final Exam Requirements:

Assignment: Each of the 4 instructors will provide a written or programming exercise.

Deadline: Solutions for at least **one out of the four** modules must be submitted by June 25th.

Certification:

Certificate of Successful Completion of the Ph.D.School

will be issued upon passing the exam during the online morning session on July 1st.

Bologna Hub: Weekend Escapes



Escape the classroom and explore the absolute best of Italy's historic cities and seaside resorts by train.

[trenitalia.com](https://www.trenitalia.com)



🚆 ~35 MINS (FAST)

Florence

- ✓ World-class Renaissance art
- ✓ Stunning Duomo skyline
- ✓ Uffizi & Ponte Vecchio



🚆 ~1H 15M

Venice

- ✓ Iconic historic canals
- ✓ St. Mark's Basilica
- ✓ Gondolas & bacaro food tours



🚆 ~1H 10M (DIRECT)

Ravenna

- ✓ Breath-taking mosaics
- ✓ 8 UNESCO heritage sites
- ✓ Tomb of Dante Alighieri



🚆 ~55 MINS (DIRECT)

Rimini

- ✓ Sunny Adriatic sandy beaches
- ✓ Dynamic student nightlife
- ✓ Fellini film museum & Roman arch

Enjoy the PhD school!

It promises to be an intensive, highly collaborative,
and inspiring time here in Bologna.