PhD in Computer Science & Artificial Intelligence PhD in Mathematical & Physical Sciences

PhD Students Welcome Day



November 8th, 2023 – v. 1.0

The CS&AI and MPS PhD programs

- Instituted in 2020 as successors to previous PhD program in Computer Science, Mathematics & Physics
- Three year duration
- PhD cycle XXXIX, starting November 1st, 2023
- PhD thesis to be submitted by October 31 of 3rd year
- Graduation in spring of the following year
- Not all students start on Nov 1st / end on Oct 31



Funding

- Standard scholarship: € 15.343,28 per year
- Supplements per month abroad: € 639 (6 months)
- € 4603 research funding across three years
- If needed, ask for a laptop (in due purchase)
- Thematic scholarships (Bruno Kessler, INFN, etc.)
- Other research funds can be provided by the Supervisor and his/her Lab/Institute



Important figures about learning activities

- Learning activity ≥ 20 CFU (also "Transversal")
 - 5 CFU English, <u>if needed (CFU's for Italian courses as well</u>)
 - 4 "Transversal" topics (at least one course for each topic, to be attended downtown at the University)
 - PhD thematic courses (typically 2 or 4+ CFU each for CSAI; at least 12 CFU for MPS)
 - Individual activities (summer schools, external courses, etc.)
- Teaching activity ~24 hrs (≤ 40 hrs) each year,

(MPS: from the second year)

• PhD project overall = 1720 hrs each year



Annual reporting

- Learning activity (CFUs approved in the PhD Notebook) (MPS: Detailed instructions on the allocation of credits will be available shortly)
- Teaching activity (24 hrs no CFUs, then permission needed)
- Dissemination (seminars, conferences)
- Publications (articles, papers upload in IRIS)
- Extra-project activities (paid or not, permission needed)
- Activities covered by PhD funds
- Internships
- Interruptions (max one year, personal or family issues, 4° year can be asked at no salary)
- Evaluation Day by Oct. 31, not necessarily matching with annual report.



Intrnal courses – Organized by CS & AI

Title	Dates	Organizers	CFU
??	November 28 & 29	Luca Di Gaspero	2 + 2 (8 hrs)
Automated software testing (2024 Obligatory course and assignment)	March	Vincenzo Riccio	1.5 + 2.5 (12 hrs)
Course on CS (no AI) - Title to be announced (Advanced course 2024 at DMIF)	Stay tuned!	To be announced	2 + 2 (8 hrs)
Course on AI - Title to be announced (Advanced course 2024 at DMIF)	Stay tuned!	To be announced	2 + 2 (8 hrs)
Course at FBK - Title to be announced (Advanced course 2024 at DMIF)	Stay tuned!	To be announced	2 + 2 (8 hrs)



Courses for 2023/24 – Organized by MPS

	Title		Teacher(s)	CFU
	Advanced Statistics	January 2024	Michela Battauz, Valentina Mameli	5+2 (20 hours)
M A	Exponential Runge-Kutta Methods		Rossana Vermiglio	2+2 (8 hours)
T H	Introduction to mathematical modelling of infectious diseases	Dec 23 2023	Francesca Scarabel	2+2 (8 hours)
E M	Lie Algebras	March 2024	Mario Mainardis	4 + 2 (16 hours)
A T	Linear orderings	May/Jun e 2024	Thilo Weinert	2+2 (8 hours)
I C	Introduction to the zoo of reverse mathematics	May/Jun e 2024	Alberto Marcone	3+2 (12 hours)
S	Determinacy and IO	Jan/Feb 2024	Vincenzo Dimonte	3+2 (12 hours)
	Numeri, numerosità ed Analisi Non-Standard	Spring 2024	Vieri Benci	2+2 (8 hours)



Courses for 2023/24 – Organized by MPS

	Title		Teacher(s)	CFU
	Conceptual change and learning progression	Nov/Dec 2023	Marisa Michelini	2+2 (8 hours)
Р	Classical and quantum simulations of nano and bio-systems	February 2024	M. Soler Bastida, Paolo Giannozzi	3+2 (14 hours)
H Y S	Asymptotic symmetries in gravity	April 2024	Daniele Pranzetti	3+2 (12 hours)
I C	Covariant phase space and Noether's theorems	March 2024	Daniele Pranzetti	3+2 (12 hours)
S	Radiation-matter interaction and radiation damage	Jan/Feb 2024	Simone Monzani	3+2 (14 hours)
	Advanced general relativity	March 2024	Stefano Ansoldi	3+2 (12 hours)



More courses for 2023/24 – MPS

	Title		Teacher(s)	CFU
SUPE/CISM	Delays and structures in dynamical systems: modeling, analysis and numerical methods	November 20-24, 2023	https://www.cism.it/en/activities/courses/C2318	
	Algebra commutativa	February/March 2024	Mario Mainardis	2+2 (28 hours)
	Matematica per il Machine learning	May/June 2024	Dimitri Breda Enrico Bozzo Paolo Vidoni	2+2 (24 hours)
	Wqo an bqo theory with applications	February/March 2024	Alberto Marcone Gabriele Puppis	2+2 (28 hours)



PhD Notebook app

- You must insert all you do about your PhD (learning activities, seminars you attend, teaching, etc) in the "PhD Notebook" app.
- You also insert there the yearly description of your research.
- It will eventually generate your annual and final reports.
- We recommend inserting the activities as they happen, to avoid an end-of-the-year rush.
- Everything needs to be approved by your supervisor and will be then reviewed by the board.
- Therefore, if you plan to attend learning activities outside those organized by the PhD board (good idea to follow e.g. the SMC courses), ask your supervisor beforehand: (s)he will need to approve any credits you claim for them.



Workplan (suggested)

1st year

- PhD Welcome Day at the University (in February 2024 at the Biblioteca nearby)
- Attend courses/schools, also organized by the University
- Begin research activity
- End-of-the-year reporting, evaluation (learning activity & research plan)

2nd year

- Conclude the learning activity
- Research activity full immersion
- Teaching
- End-of-the-year reporting, evaluation (learning activity & research activity)

3rd year

- Conclude research and write PhD thesis
- Teaching
- Exhibition at the University (PhD Expo)
- Admission to the final exam (external review of the PhD thesis)

Beginning of the new year: discussion of the thesis, graduation



Students' representatives in the board

- There are two students' representatives in each PhD board
- CS & AI: Alessandro Privitera (UD) & Stefano Stefenon (FBK)
- MPS: Simone De Reggi & Sebastiano Thei
- For any issue, please report/refer to them prior to emailing the Coordinators



Meet the Department staff

- Silvia Zuccaro (Head of department staff)
- Marina Dorligh (Head of administrative staff)
- Francesca Baciga (Head of research staff)
- Antonella Burci (Travels, reimbursement)
- Alessandra Galvani (Room keys: do ask for your keys)
- Chiara Maltese (System administrator, technical issues)
- Eleonora Miotti (Local representer of PhD central office)
- Roberta Maluta (Front desk: lost? start from here!)
- Cristina Melilla (Buying equioment, Events organization)



Populate the Department web site ASAP

Please

- enter into contact with niki.martinel@uniud.it (CS & AI) or gianluca.franco@uniud.it (MPS)
- send: photo & bio & short research project &
- personal web page address (if any)

Inclusion in our web site: https://www.dmif.uniud.it/dottorato/dottorandi/

Ex. (typical bio): https://www.dmif.uniud.it/dottorato/imf/dottorandi/axel.denardin/



Additional info

General information, call for PhD:

- www.uniud.it/en/research/research-doctorate/phdstudies
- https://www.dmif.uniud.it/dottorato/

Information about Fondazione Bruno Kessler:

www.fbk.eu/en/

Contacting a supervisor from the PhD Board:

- www.dmif.uniud.it/dottorato/iai/collegio-docenti/
- www.dmif.uniud.it/dottorato/smf/collegio-docenti/



Questions

Our questions

- Supervisors' list check
- Room check
- Laptop check

Your questions

• ?

Future administrative questions: talk with Eleonora

• eleonora.miotti@uniud.it

