

Francesco Pisanu

MSCA POSTDOCTORAL FELLOW · COMBINATORIAL OPTIMIZATION

Venice School of Management

Professional Experience

- 09/2026–present **MSCA Postdoctoral Researcher**, Venice School of Management, Ca'foscari University of Venice
- 09/2024–08/2026 **Postdoctoral Researcher**, CORE, Université Catholique de Louvain, Belgium
- 09/2023–08/2024 **ATER (Temporary Teacher & Researcher)**, Université Sorbonne Paris Nord, France
- 09/2021–08/2023 **Teaching Assistant**, Université Sorbonne Paris Nord, France
- 09/2019–08/2020 **Italian Ministry of Research Fellow**, Traffic flow forecasting with neural networks, CRS4, Italy
- 10/2019–11/2019 **Master's Internship**, X-ray pulsar signal recognition, Astronomical Observatory of Cagliari, Italy
- 10/2018–06/2019 **Erasmus +**, Universitatea Alexandru Ioan Cuza, Iasi, Romania

Education

Université Sorbonne Paris Nord

99 Av. Jean Baptiste Clément,
93430 Villetaneuse, France
Dec 2023

PHD COMPUTER SCIENCE

- Advisor: Prof. Roberto Wolfler Calvo

Università di Cagliari

Via Università, 40, 09124 Cagliari,
Italy
Feb 2020

MS APPLIED MATHEMATICS WITH SUMMA CUM LAUDE

- Advisor: Prof. Antonio Greco

Università di Cagliari

Via Università, 40, 09124 Cagliari,
Italy
Sept 2017

BS MATHEMATICS

- Advisor: Prof. Daniela Lera

Publications

SELECTED PUBLICATIONS

Approximation algorithms

Catanzaro, D., Pesenti, R., **Pisanu, F.** 2026. A note on the approximability of the balanced minimum evolution problem. *Operations Research Letters*, 67.

Polyhedral combinatorics

Lancini, E., **Pisanu, F.** 2026. A horizon tour of box-total dual integrality. *Computer Science Review*, 61.

Polyhedral combinatorics

Chervet, P., Grappe, R., Lacroix, M., **Pisanu, F.**, Wolfler Calvo, R. 2023. Hard problems on box-totally dual integral polyhedra. *Discrete Optimization*, 50.

OTHER PUBLICATIONS

Spectral timing analysis

Bachetti, M., Huppenkothen, D., Stevens, A., Swinbank, J., Mastroserio, G., Lucchini, M., Lai, E. V., Buchner, J., Desai, A., Joshi, G., **Pisanu, F.**, Pisupati, S. G. D., Sharma, S., Tripathi, M., Vats, D. 2024. Stingray 2: A fast and modern Python library for spectral timing. *The Journal of Open Source Software*.

Overdetermined PDE

Greco, A., **Pisanu, F.** 2022. Improvements on overdetermined problems associated to the p-Laplacian. *Mathematics in Engineering*, 4(3): 1–14.

Spectral timing analysis

Israel, G. L., De Luca, A., Bachetti, M., Belfiore, A., Esposito, P., Imbrogno, M., Miraval Zanon, A., **Pisanu, F.**, Rodríguez Castillo, G. A., Salvaterra, R., Tiengo, A., Wolter, A., Ultras Team, Pulsultras Team. 2022. The Extragalactic Population of Accreting Neutron Stars and the Ultraluminous X-ray Sources Paradigm: from ULtraS to PULSULtraS. *Journal of the Italian Astronomical Society*.

UNDER REVIEW

Computational complexity	Catanzaro, D., Joret, G., Pierre, B., Pisanu, F. 2026+. On the Complexity of Degree-Constrained Network Design Problems with Linear and Nonlinear Objectives. Submitted in December 2025 to <i>Networks</i> , Wiley.
Polyhedral combinatorics	Grappe, R., Lacroix, M., Pisanu, F. 2026+. On strong integrality properties of the perfect matching polytope. Submitted in May 2025 to <i>Discrete Mathematics</i> , Elsevier.

IN PREPARATION

Game theory	Michini, C., Pisanu, F. 2026+. On combinatorial congestion games.
Polyhedral combinatorics	Barbato, M., Lancini, E., Pisanu, F. 2026+. On edge-coloring polyhedra.
Approximation algorithms	Catanzaro, D., Pesenti, R., Pisanu, F. 2026+. An approximation ratio of the neighbor-joining algorithm.

Awards, Fellowships, & Grants

2026	Postdoctoral Fellowships - Marie Skłodowska-Curie Actions , Funded by European Commission
2020	Merit-Based Graduation Fellowship — “Migliori Laureati” , Funded by University of Cagliari
2019	Research Fellowship – “Cagliari 2020” Project , CRS4 — Funded by the Italian Ministry of Research
2017	Erasmus+ Mobility Fellowship (Universitatea Alexandru Ioan CUZA) , Funded by the European Commission and the University of Cagliari

Presentations

** presenting author*

SEMINARS

Internal talk	Second lecture on extended formulations: projections , CORE, Université Catholique de Louvain, Ottignies-Louvain-la-Neuve, Belgium.	March 2026.
Invited talk	A horizon tour of box-total dual integrality , Ecole Polytechnique de Louvain, Ottignies-Louvain-la-Neuve, Belgium.	March 2026.
Internal talk	Hardness and Structure in Network Optimization on Unrooted Binary Trees , CORE, Université Catholique de Louvain, Ottignies-Louvain-la-Neuve, Belgium.	September 2025.
Internal lecture	Third lecture on matroids: cycles and representability , CORE, Université Catholique de Louvain, Ottignies-Louvain-la-Neuve, Belgium.	April 2025
Internal lecture	First lecture on matroids: introduction , CORE, Université Catholique de Louvain, Ottignies-Louvain-la-Neuve, Belgium.	February 2025
Invited talk	Hard problems on box-TDI polyhedra , Séminaire Parisien de Recherche Opérationnelle, Institut Henri Poincaré, Paris, France.	November 2024
Internal talk	Hard problems on box-TDI polyhedra , CORE, Université Catholique de Louvain, Ottignies-Louvain-la-Neuve, Belgium.	November 2024
Invited talk	Box-Total Dual Integrality of the Perfect Matching Polytope , LAMSADE Seminar, Université Paris Dauphine, Paris, France.	March 2024

CONFERENCES

On the approximability of the balanced minimum evolution problem , IFORS 2026, University of Vienna, Austria.	July 2026
On the complexity of degree-constrained network design problems , INOC 2026, HEC Liège, Belgium.	April 2026
On the approximability of the balanced minimum evolution problem , ORBEL 2026, Katholieke Universiteit Leuven, Belgium.	January 2026
On strong integrality properties of the perfect matching polytope , ORBEL 2025, Maastricht University, Netherland.	January 2025
On the box-total dual integrality of the perfect matching polytope , EURO 2024, Copenhagen, Denmark.	July 2024
Box-total dual integrality of the perfect matching polytope , ROADEF 2024, Amiens, France.	January 2024
On the box-total dual integrality of the matching polytope , JPOC13, Clermont-Ferrand, France.	June 2023
Two hard problems in box-totally dual integral polyhedra , ROADEF 2023, Rennes, France.	January 2023
Hard problems in box-TDI polyhedra , EURO 2022, Espoo, Finland.	July 2022
Recognizing box-TDI polyhedra is co-NP-complete , JPOC12, Paris, France.	June 2021

Teaching Experience

Lecturer	Prescriptive Analytics (Management track, M2) , English, 30 hours, Ca'Foscari University of Venice	AYs 2026/27
Lecturer	Production and Operations Management (Management track, L3) , English, 15 hours, Université Catholique de Louvain	AYs 2025/26-2024/25
Teaching Assistant	C Programming (PAM2, L0) , French, 40 hours, Université Sorbonne Paris Nord – Institut Galilée	AY 2023/24
Teaching assistant	C Programming 1 (Mathematics track, L1) , French, 30 hours, Université Sorbonne Paris Nord – Institut Galilée	AY 2023/24
Teaching assistant	C Programming 2 (Computer Science track, L1) , French, 50 hours, Université Sorbonne Paris Nord – Institut Galilée	AY 2023/24
Teaching assistant	Computer Science 1 (Physical Chemistry track, L1) , French, 18 hours, Université Sorbonne Paris Nord – Institut Galilée	AY 2023/24
Teaching assistant	Computer Science 2 (Physical Chemistry track, L1) , French, 22 hours, Université Sorbonne Paris Nord – Institut Galilée	AY 2023/24
Teaching assistant	Object-Oriented Programming (Computer Science track, L2) , French, 44 hours, Université Sorbonne Paris Nord – Institut Galilée	AY 2023/24
Teaching assistant	Software Quality (BUT1) , French, 14 hours, Institut Universitaire de Technologie (IUT) de Villetaneuse	AYs 2022/23-2021/22
Teaching assistant	Human-Computer Interaction (BUT1) , French, 42 hours, Institut Universitaire de Technologie (IUT) de Villetaneuse	AYs 2022/23-2021/22

Languages

Italian, Native

English, Writing: advanced, Speaking: advanced, Listening: advanced

French, Writing: advanced, Speaking: advanced, Listening: advanced

Activities

ACADEMIC SERVICES

International Conference on Optimization and Decision Science 2026 (ODS 2026) , Member of the local organizing committee.	September 2026
Peer reviewer for Discrete Mathematics , Elsevier.	2026

Extended formulations lecture group , Organizer of the CORE internal optimization reading group. The meetings took place once a month from March to June. Internal lecturers involved: F. Pisanu , Mathieu Van Vyve, Quentin L��t��, Nicolas Stevens.	AY 2025/26
Matroid theory lecture group , Organizer of the CORE internal optimization reading group. The meetings took place once a month from February to June. Internal lecturers involved: F. Pisanu , Mathieu Van Vyve. External lecturer involved: Emiliano Lancini (Universit�� Paris Dauphine)	AY 2024/25
Operations Research Seminar Series , Co-organizer (together with Quentin L��t��) of the seminar series in OR for the CORE department. I invited twenty-two speakers in AY 24/25 and have currently scheduled 16 for AY 25/26.	Ays 2025/26- 2024/25