

# Federico Corò

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## Short Bio

I am currently an assistant professor (RTDa) at the Mathematics department of the University of Padova in Italy. I received my BSc and MSc in Computer Science from the University of Perugia in 2014 and 2016, respectively, and my Ph.D. in Computer Science from the Gran Sasso Science Institute in L'Aquila, Italy in 2019. Prior to my current position, I was a postdoctoral researcher at La Sapienza University of Rome in Italy from 2019 to 2020, at the Missouri University of Science and Technology in the United States from 2021 to 2022, and the University of Perugia from 2022 to 2023. My research interests include various areas of theoretical computer science, such as combinatorial optimization, network analysis, and algorithm design and implementation.

## Education

*2016 - 2019*

**Ph.D. in Computer Science** obtained on November 2019 at the *Gran Sasso Science Institute (GSSI)*, L'Aquila, Italy

Dissertation title: *Exploiting Social Influence to Control Opinions in Social Networks*

Advisors: D'Angelo Gianlorenzo and Pinotti M. Cristina

*2014 - 2016*

**Master Degree in Computer Science** obtained on September 2016 at the *University of Perugia*, Perugia, Italy

Thesis title: *Connectivity of a network of randomly oriented directional antennas*

Advisor: Pinotti M. Cristina

Final mark *110/110 cum laude*

*2011 - 2014*

**Bachelor Degree in Computer Science** obtained on September 2014 at the *University of Perugia*, Perugia, Italy

Thesis title: *Problem of locating two dependent or independent facilities in a grid graph*

Advisor: Pinotti M. Cristina

Final mark *110/110 cum laude*

## Research Positions

*April 2023 - now*

**Assistant Professor (non-tenure track)** at the Department of Mathematics, University of Padova, Italy

*Aug 2022 - March 2023*

**Post-doctoral researcher** at the Department of Computer Science, University of Perugia, Italy

Responsibilities: Foundational and applied research on the design of algorithms to be used for acquiring data using Unmanned Aerial Vehicles and IoT devices, in the context of the European project HALY-ID 862671 "HALYomorphia halys IDentification: Innovative ICT tools for targeted monitoring and sustainable management of the brown marmorated stink bug and other pests".

*Feb 2021 - July 2022*

**Post-doctoral researcher** at the Department of Computer Science, Missouri University of Science and Technology, Rolla, United States

Responsibilities: Foundational and applied research on the use of Unmanned Aerial Vehicles in dynamic and complex environments, such as precision agriculture, search and rescue, and delivery of goods.

*Dec 2019 - Nov 2020*

**Post-doctoral researcher** at the Department of Computer Science, Sapienza University of Rome, Italy

Responsibilities: Foundational and applied research on the use of hybrid networks to rescue people after a natural disaster.

## Current Research Lines

In my research, I investigate the potential of Unmanned Aerial Vehicles (UAVs) to enhance the quality of life for humans. Specifically, I study various areas of theoretical computer science, such as combinatorial algorithms, computational complexity, combinatorial optimization, network analysis, and algorithm design and implementation, to better understand the capabilities of UAVs and find ways to optimize their use.

The use of UAVs that can operate autonomously in dynamic and complex environments is becoming progressively more common. Over the past few decades, UAVs have been used in many different applications, such as precision agriculture, search and rescue, warehousing, and logistics.

The majority of my current research is designing and analyzing novel algorithms to address research challenges involving the use of UAVs to deliver goods, smart agriculture, and support rescue teams after earthquakes.

I expand below the main lines of research that I am pursuing now. References point to the publication list.

### Exploiting UAVs for Search and Rescue Operations

UAVs have the potential to greatly assist with search and rescue efforts in a variety of scenarios, including natural disasters (such as earthquakes and tsunamis) and man-made disasters (such as terrorist attacks). In these situations, it is critical for civil authorities to rapidly gather information and continuously monitor the progress of the event or rescue mission. UAVs provide an effective platform for acquiring the situational awareness needed to successfully execute rescue and relief operations. For instance, a primary objective might be to thoroughly survey the affected area and direct rescue teams accordingly. It is worth noting that rescue teams must complete their operations within a few hours of the disaster in order to minimize loss of life. Additionally, in the immediate aftermath of these disasters, there may be no functioning communication infrastructure, making it difficult to coordinate activities. In this context, UAVs can make a significant difference by enabling fast and effective aid. In a preliminary study [c7, i3, j3], we formally define the problem in terms of graphs; we conduct a theoretical study on some parameters of our problem (completion time, number of UAVs, and of additional batteries) with the aim of giving indications to the organization leading the rescue teams to guarantee a fast and effective rescue. We then propose some heuristics that address the problem and perform extensive simulations to evaluate them.

### Delivery of Goods with Drones

Recently, several companies, such as Amazon, Domino's, and Google, have begun testing the use of UAVs for delivery and warehousing purposes. Using UAVs for these purposes offers numerous advantages, including cost savings and the ability to deliver to time-sensitive or hard-to-reach locations.

In our project [c12, w7], we investigated optimal and approximate position of one or two warehouses in order to optimize the delivery service. The parameter taken into account is the distance traveled by the UAV from the warehouse to each customer. We assumed a full regular grid graph in which each point represents possible locations of the UAV's warehouse and delivery destinations. We split the grid into two contiguous areas: one Euclidean to represent the countryside of a map where the UAV can fly without any obstacle; and one Manhattan to represent an urban area with tall buildings where the UAV must perform a route avoiding them. In a subsequent work [j9, c5] we also studied the feasibility of sending drones to deliver goods from a depot to a customer while considering a dynamic delivery area where the global wind may change thereby affecting the

drone's energy consumption, which in turn can increase or decrease. For this scenario, we developed different efficient heuristics and evaluate the performance of our algorithms on both synthetic and real-world data. In recent works [i2, c4, w4, j7], we investigate the symbiosis among a truck and multiple drones in a last-mile package delivery scenario. From the main depot, a truck transports a team of drones that will be used to deliver packages to customers. Each delivery is associated with a drone's energy cost, a reward that characterizes the priority of the delivery, and a time interval representing the launch and rendezvous times from and to the truck. The objective is to find optimal scheduling for the drones that maximizes the overall reward subject to the drone's battery capacity while ensuring that the same drone performs deliveries whose time intervals do not intersect.

## Use of UAVs (and Robots) in Smart Agriculture

Smart agriculture is a modern approach to farming that leverages technology such as the Internet of Things, remote sensing, and UAVs to produce food sustainably and efficiently. One of the main advantages of using UAVs for smart agriculture is the ability to assess and monitor crop quality, as well as detect potential threats such as pests or animal intrusions.

In recent works [c10, c11, j6, c3] we started to study the problem of a robot moving on a specific environment modeled as a graph that belongs to the so-called aisle-graphs. Aisle-graphs were introduced to represent, for example, vineyards or warehouses where the robot moves in order to accomplish different tasks, e.g., controlling the moisture or pruning orchards. The mentioned graph consists of a set of loosely connected lines in which the robot can change lanes only at both ends, but not in the center.

In this context, we studied a variant of the orienteering problem where a robot/drone, constrained by a limited travel budget, aims at selecting a path with the largest reward in an aisle-graph. Even when considering this special type of graph, the orienteering problem is known to be *NP*-hard. We propose two variants of graph structures (one considering specific subgraphs to represent the trees inside the orchards), then we propose optimal solutions, algorithms with approximation bounds, and fast heuristics to effectively solve the problem even on large instances.

## Awards

**Best paper award** at the 23rd International Conference on Distributed Computing and Networking (ICDCN), online conference, 2022, for the paper *Greedy Algorithms for Scheduling Package Delivery with Multiple Drones*

**Best demo paper award** at the 20th International Conference on Pervasive Computing and Communications (PerCom), online conference, 2022, for the paper *A Drone-based Application for Scouting Halyomorpha halys Bugs in Orchards with Multifunctional Nets (Demo Paper)*

## Research Funding

*2023-24* Padua-St Andrews Joint Seed Funding scheme (Principal co-investigator). Project title: *Next Generation Path Planning Systems for Autonomous Vehicles*. The project was funded with 5860 €.

*2023* INdAM/GNCS Travel funding for Young Researchers. The project was funded with 800 €.

## Experience in Academic Teaching

*Fall 2023*

**Lecturer** of *Introduction to Computer Science*, BSc in Earth and Climate Dynamics, University of Padova, Italy

*Spring 2023-24*

**Co-lecturer** of *Operating Systems with Lab*, BSc in Computer Science, University of Padova, Italy

September 2022

**Lecturer** for remedial and exam preparation for the course of *Algorithms and Data Structures*, BSc in Computer Science - Summer School, University of Perugia, Italy

Spring 2020

**Co-lecturer** of *Operating Systems with Lab*, BSc in Computer Science, University of Perugia, Italy

2014 - 2016

**Teaching Assistant** of *Algorithms and Data Structures*, BSc in Computer Science, University of Perugia, Italy. Responsibilities: I have prepared several lectures and exercises and I supervised student examinations and graded work submissions.

## Supervision and Evaluation of Theses

### Supervision of Bachelor Theses

2018 **Co-supervisor** with Pinotti M.C. of the BSc Thesis by Bartoli L., Computer Science, University of Perugia, Italy, on *Drone Delivery System in a Mixed Landscape*

## Research Periods in Foreign Institutions

March 2018 Research collaborations with Prof. Vlady Ravelomanana at the University of Denis Diderot, Paris, France. Leading to publications: [w8]

## Academic Responsibilities

### Organizational Responsibilities

- **General Co-Chair** at the International Workshop on Wireless Sensors and Drones in Internet of Things (Wi-DroIT) 2023-24
- **Co-Organizer** of the special session “Sensing and Data Platforms: what is ahead of us” at the 6th IEEE International Workshop on Metrology for Agriculture and Forestry (MetroAgriFor) 2023
- **Publicity Chair** at the International Workshop on Cost-effective Algorithms for Robots and Drones In Novel AppLications (CARDINAL) 2023
- **Publicity Chair** at the International Workshop on Wireless Sensors and Drones in Internet of Things (Wi-DroIT) 2021-22
- **Publicity Chair** at the 12th International Conference on Algorithms and Complexity (CIAC) 2021
- Student Volunteer at the 28th International Joint Conferences on Artificial Intelligence (IJCAI) 2019
- Student Volunteer at the 17th International Symposium on Experimental Algorithms (SEA) 2018

### PC Membership at International Conferences and Workshops

- SIAM International Conference on Data Mining (SDM) 2024
- International Workshop on Networking Women in Distributed Computing and Networks (NWDCN) 2022-24
- International Joint Conferences on Artificial Intelligence (IJCAI) 2021-23
- International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2021-23
- ACM Conference on Knowledge Discovery & Data Mining (KDD) 2022-23
- International Conference On Distributed Computing And Networking (ICDCN) 2023
- International Workshop on Unmanned Autonomous Vehicles and IoT (UAV-IoT) 2023
- Symposium on Algorithmics of Wireless Networks (ALGOSENSORS) 2022
- International Workshop on Emergency Response Technologies and Services (EmeRTeS) 2022
- International Workshop on Wireless Sensors and Drones in Internet of Things (Wi-DroIT) 2021-22
- International Conference on Sensor Technologies and Applications (SENSORCOMM) 2019-22
- International Conference on Networks and Security (NSEC) 2021

- International Conference on Frontiers of Sensors Technologies (ICFST) 2020-21

## Reviewing for international journals

- Ad Hoc Networks
- Applied Sciences, MDPI
- Computer Networks
- Expert System with Applications (ESWA)
- Heliyon
- IEEE Access
- Journal of Artificial Intelligence Research (JAIR)
- Journal of Graph Algorithms and Applications (JGAA)
- Journal of Theoretical Computer Science (TCS)
- KSII Transactions on Internet and Information Systems
- Operations Research and Decisions
- Peer-to-Peer Networking and Applications (PPNA)
- Pervasive and Mobile Computing (PMC)
- Research in Transportation Economics
- Transactions on Emerging Topics in Computational Intelligence
- Transactions on Intelligent Transportation Systems (T-ITS)
- Transactions on Networking (TNET)
- Transactions on Sensor Networks (TOSN)

## External Conference Reviewer

- CALDAM'23; WALCOM'23; INFOCOM'21-22; ICNP'21; SAGT'21; MFCS'21; DCOSS'21; WoWMoM'21; MLIS'20; AAMAS'20; AAAI'20; DSAA'19; IJCAI'19; MOBIWAC'18; ICTCS'18; ICDCN'18

## Talks and Seminars

### Presentations at Conferences and Workshops

*September 2023* Presentation at the International Workshop on Unmanned Autonomous Vehicles and IoT (UAV-IoT@MASS), Toronto, Canada. Title: *Exploring Mixed-Grid Environments for Drone-Based Last-Mile Logistics Optimization*

*September 2023* Presentation at the 24th Italian Conference on Theoretical Computer Science (ICTCS), Palermo, Italy. Title: *(Eternal) Vertex Cover Number of Infinite and Finite Grid Graphs*

*July 2022* Presentation at the Workshop on Advanced Tools, Programming Languages, and Platforms for Implementing and Evaluating Algorithms for Distributed systems (ApPLIED@PODC), Salerno, Italy. Title: *Drone-Truck Cooperated Delivery Under Time Varying Dynamics*

*January 2022* Presentation at the 23rd International Conference on Distributed Computing and Networking (ICDCN), online conference. Title: *Greedy Algorithms for Scheduling Package Delivery with Multiple Drones (Best paper award)*

*November 2020* Presentation at the 16th ACM Symposium on QoS and Security for Wireless and Mobile Networks (Q2SWinet), online conference. Title: *A Realistic Model to support Rescue Operations after an Earthquake*

*September 2020* Presentation at the 22nd Italian Conference on Theoretical Computer Science (ICTCS), online conference. Title: *A Realistic Model to support Rescue Operations after an Earthquake*

*September 2019* Presentation at the Markets, Algorithms, Prediction and LEarning (MAPLE) workshop, Milano, Italy. Title: *Exploiting Social Influence to Control Elections Based on Scoring Rules*

- September 2019* Presentation at the 21st Italian Conference on Theoretical Computer Science (ICTCS), Como, Italy. Title: *Models and Algorithms for Election Control Through Influence Maximization*
- August 2019* Presentation at the 28th International Joint Conference on Artificial Intelligence (IJCAI), Macau, China. Title: *Exploiting Social Influence to Control Elections Based on Scoring Rules*
- June 2019* Presentation at the 4th Highlights of Algorithms (HALG), Copenhagen, Denmark. Title: *Balancing spreads of influence in a social network*
- August 2018* Presentation at the 14th International Symposium on Algorithms and Experiments for Wireless Sensor Networks (ALGOSENSORS), Helsinki, Finland. Title: *On the Maximum Connectivity Improvement problem*
- June 2018* Presentation at the 17th Annual Mediterranean Ad Hoc Networking Workshop (Med-Hoc-Net), Capri, Italy. Title: *Border Effects on Connectivity for Randomly Oriented Directional Antenna Networks*

## Seminars

- July 2022* A lecture I gave in the “Smart Living in the Era of IoT, AI, Data Science and Cybersecurity” Ph.D. course at the University of Pisa, Italy. Title: *UAV Algorithms and Applications: last-mile package delivery*
- March 2022* A lecture I gave in the “Algorithms and Data Structures” class at the University of Perugia, Italy. Title: *Truck-Drone cooperation for last-mile deliveries: An algorithmic approach*
- February 2022* Seminar at the Missouri University of S&T, USA. Title: *Optimal and Approximation Algorithms for Multiple Drone-Delivery Scheduling Problem*
- September 2021* A lecture I gave in the “Applied Graph Theory” class at the Missouri University of S&T, USA. Title: *Truck-Drone cooperation for last-mile deliveries: A graph theory approach*
- March 2021* A lecture I gave in the “Cyber-Physical Systems” class at the Missouri University of S&T, USA. Title: *UAVs in Cyber-Physical Applications*
- December 2020* Seminar at the Sapienza University of Rome, Italy. Title: *A Realistic Model to support Rescue Operations after an Earthquake*
- July 2020* Seminar at the Missouri University of S&T, USA. Title: *Election Control through Social Influence with Unknown Preferences*
- December 2019* Seminar at the University of Perugia, Italy. Title: *Exploiting Social Influence to Control Opinions in Social Networks*

# Publications

## Conference Proceedings

- [e1] T. Calamoneri and F. Corò, eds. *Algorithms and Complexity - 12th International Conference, CIAC 2021, Virtual Event, Proceedings*. Vol. 12701. Lecture Notes in Computer Science. Springer, 2021.

## International Journals

- [j1] F. B. Sorbelli, F. Corò, S. K. Das, C. M. Pinotti, and A. M. Shende. “Dispatching Point Selection for a Drone-Based Delivery System Operating in a Mixed Euclidean-Manhattan Grid”. In: *Annals of Operations Research. To appear* (2023).
- [j2] F. B. Sorbelli, F. Corò, L. Palazzetti, C. M. Pinotti, and G. Rigoni. “How the Wind Can Be Leveraged for Saving Energy in a Truck-Drone Delivery System”. In: *IEEE Transactions on Intelligent Transportation Systems* 24.4 (2023), pp. 4038–4049.
- [j3] T. Calamoneri, F. Corò, and S. Mancini. “A Realistic Model to Support Rescue Operations After an Earthquake via UAVs”. In: *IEEE Access* 10 (2022), pp. 6109–6125.
- [j4] F. Corò, E. Cruciani, G. D’Angelo, and S. Ponziani. “Exploiting social influence to control elections based on positional scoring rules”. In: *Information and Computation* 289 (2022), p. 104940.
- [j5] M. A. Mehrizi, F. Corò, E. Cruciani, and G. D’Angelo. “Election control through social influence with voters’ uncertainty”. In: *Journal of Combinatorial Optimization* 44.1 (2022), pp. 635–669.
- [j6] F. B. Sorbelli, S. Carpin, F. Corò, S. K. Das, A. Navarra, and C. M. Pinotti. “Speeding up Routing Schedules on Aisle Graphs With Single Access”. In: *IEEE Transactions on Robotics* 38.1 (2022), pp. 433–447.
- [j7] F. B. Sorbelli, F. Corò, S. K. Das, L. Palazzetti, and C. M. Pinotti. “On the Scheduling of Conflictual Deliveries in a last-mile delivery scenario with truck-carried drones”. In: *Pervasive Mobile Computing* 87 (2022), p. 101700.
- [j8] F. Corò, G. D’Angelo, and Y. Velaj. “Link Recommendation for Social Influence Maximization”. In: *ACM Transactions on Knowledge Discovery from Data* 15.6 (2021), 94:1–94:23.
- [j9] F. B. Sorbelli, F. Corò, S. K. Das, and C. M. Pinotti. “Energy-Constrained Delivery of Goods With Drones Under Varying Wind Conditions”. In: *IEEE Transactions on Intelligent Transportation Systems* 22.9 (2021), pp. 6048–6060.
- [j10] F. Corò, G. D’Angelo, and V. Mkrtchyan. “On the Fixed-Parameter Tractability of the Maximum Connectivity Improvement Problem”. In: *Theory of Computing Systems* 64.6 (2020), pp. 1094–1109.
- [j11] F. Corò, G. D’Angelo, and C. M. Pinotti. “Adding Edges for Maximizing Weighted Reachability”. In: *Algorithms (Special Issue on Approximation Algorithms for NP-Hard Problems)* 13.3 (2020), p. 68.
- [j12] F. Corò, G. D’Angelo, and Y. Velaj. “Recommending Links to Control Elections via Social Influence”. In: *Algorithms (Special Issue on Algorithm Engineering - Towards Practically Efficient Solutions to Combinatorial Problems)* 12.10 (2019), p. 207.

## International Conferences

- [c1] T. Calamoneri, F. Corò, and S. Mancini. “A Matheuristic for Multi-Depot Multi-Trip Vehicle Routing Problems”. In: *Metaheuristics - 14th International Conference, MIC*. Vol. 13838. Lecture Notes in Computer Science. Springer, 2022, pp. 464–469.
- [c2] P. Ranjan, A. Gupta, F. Corò, and S. K. Das. “Securing Federated Learning against Overwhelming Collusive Attackers”. In: *IEEE Global Communications Conference, GLOBECOM*. IEEE, 2022, pp. 1448–1453.

- [c3] F. B. Sorbelli, F. Corò, S. K. Das, L. Palazzetti, and C. M. Pinotti. “Drone-based Optimal and Heuristic Orienteering Algorithms Towards Bug Detection in Orchards”. In: *Proceedings of the 18th International Conference on Distributed Computing in Sensor Systems, DCOSS*. IEEE, 2022, pp. 117–124.
- [c4] F. B. Sorbelli, F. Corò, S. K. Das, L. Palazzetti, and C. M. Pinotti. “Greedy Algorithms for Scheduling Package Delivery with Multiple Drones”. In: *Proceedings of the 23rd International Conference on Distributed Computing and Networking (ICDCN)*. **Best Paper Award**. ACM, 2022, pp. 31–39.
- [c5] A. Khanda, F. Corò, F. B. Sorbelli, C. M. Pinotti, and S. K. Das. “Efficient Route Selection for Drone-based Delivery Under Time-varying Dynamics”. In: *Proceedings of the 18th IEEE International Conference on Mobile Ad Hoc and Smart Systems (MASS)*. IEEE, 2021, pp. 437–445.
- [c6] R. Becker, F. Corò, G. D’Angelo, and H. Gilbert. “Balancing Spreads of Influence in a Social Network”. In: *Proceedings of the 34th Conference on Artificial Intelligence (AAAI)*. AAAI Press, 2020, pp. 3–10.
- [c7] T. Calamoneri and F. Corò. “A Realistic Model for Rescue Operations after an Earthquake”. In: *Proceedings of the 16th ACM Symposium on QoS and Security for Wireless and Mobile Networks (Q2SWinet). Poster in the 23th International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM)*. ACM, 2020, pp. 123–126.
- [c8] F. Corò, R. Verdecchia, E. Cruciani, B. Miranda, and A. Bertolino. “JTeC: A Large Collection of Java Test Classes for Test Code Analysis and Processing”. In: *Proceedings of the 17th International Conference on Mining Software Repositories (MSR)*. ACM, 2020, pp. 578–582.
- [c9] M. A. Mehrizi, F. Corò, E. Cruciani, and G. D’Angelo. “Election Control Through Social Influence with Unknown Preferences”. In: *Proceedings of the 26th International Computing and Combinatorics Conference (COCOON)*. Vol. 12273. Lecture Notes in Computer Science. Springer, 2020, pp. 397–410.
- [c10] F. B. Sorbelli, S. Carpin, F. Corò, A. Navarra, and C. M. Pinotti. “Optimal Routing Schedules for Robots Operating in Aisle-Structures”. In: *Proceedings of the 2020 IEEE International Conference on Robotics and Automation (ICRA)*. IEEE, 2020, pp. 4927–4933.
- [c11] F. B. Sorbelli, F. Corò, S. K. Das, A. Navarra, and C. M. Pinotti. “Speeding-up Routing Schedules on Aisle-Graphs”. In: *Proceedings of the 16th International Conference on Distributed Computing in Sensor Systems (DCOSS)*. IEEE, 2020, pp. 69–76.
- [c12] L. Bartoli, F. B. Sorbelli, F. Corò, C. M. Pinotti, and A. M. Shende. “Exact and Approximate Drone Warehouse for a Mixed Landscape Delivery System”. In: *Proceedings of the 5th IEEE International Conference on Smart Computing (SMARTCOMP)*. IEEE, 2019, pp. 266–273.
- [c13] F. Corò, E. Cruciani, G. D’Angelo, and S. Ponziani. “Exploiting Social Influence to Control Elections Based on Scoring Rules”. In: *Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI)*. ijcai.org, 2019, pp. 201–207.
- [c14] F. Corò, E. Cruciani, G. D’Angelo, and S. Ponziani. “Vote For Me!: Election Control via Social Influence in Arbitrary Scoring Rule Voting Systems (Extended Abstract)”. In: *Proceedings of the 18th International Conference on Autonomous Agents and MultiAgent Systems (AAMAS)*. International Foundation for Autonomous Agents and Multiagent Systems, 2019, pp. 1895–1897.
- [c15] F. Corò, G. D’Angelo, and Y. Velaj. “Recommending Links to Maximize the Influence in Social Networks”. In: *Proceedings of the 28th International Joint Conference on Artificial Intelligence (IJCAI)*. ijcai.org, 2019, pp. 2195–2201.
- [c16] F. Corò, G. D’Angelo, and C. M. Pinotti. “On the Maximum Connectivity Improvement Problem”. In: *Proceedings of the 14th International Symposium on Algorithms and Experiments for Wireless Sensor Networks (ALGOSENSORS)*. Vol. 11410. Lecture Notes in Computer Science. Springer, 2018, pp. 47–61.



## International Workshops

- [w1] P. Ranjan, A. Gupta, F. Corò, and S. K. Das. “Robust Federated Learning against Backdoor Attackers”. In: *Proceedings of the IEEE Conference on Computer Communications Workshops, INFOCOM 2023 - Workshops*. To appear. IEEE, 2023, pp. 1–6.
- [w2] F. B. Sorbelli, P. Chatterjee, F. Corò, L. Palazzetti, and C. M. Pinotti. “A Novel Multi-Layer Framework for Managing UAV Connectivity and Ground Risk in BVLoS Operations”. In: *Proceedings of the IEEE Conference on Computer Communications Workshops, INFOCOM 2023 - Workshops*. To appear. IEEE, 2023, pp. 1–6.
- [w3] F. B. Sorbelli, F. Corò, C. M. Pinotti, and A. M. Shende. “Exploring Mixed-Grid Environments for Drone-Based Last-Mile Logistics Optimization”. In: *International Workshop on Unmanned Autonomous Vehicles and IoT*. To appear. 2023.
- [w4] A. Khanda, F. Corò, and S. K. Das. “Drone-Truck Cooperated Delivery Under Time Varying Dynamics”. In: *Proceedings of the 2022 Workshop on Advanced tools, programming languages, and PLatforms for Implementing and Evaluating algorithms for Distributed systems (ApPLIED)*. ACM, 2022, pp. 24–29.
- [w5] P. Ranjan, F. Corò, A. Gupta, and S. K. Das. “Leveraging Spanning Tree to Detect Colluding Attackers in Federated Learning”. In: *Proceedings of the IEEE Conference on Computer Communications Workshops, INFOCOM 2022 - Workshops*. IEEE, 2022, pp. 1–2.
- [w6] F. B. Sorbelli, F. Corò, S. K. Das, E. D. Bella, L. Maistrello, L. Palazzetti, and C. M. Pinotti. “A Drone-based Application for Scouting Halyomorpha halys Bugs in Orchards with Multifunctional Nets”. In: *Proceedings of the 20th IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events, PerCom 2022 Workshops*. **Best Demo Paper Award**. IEEE, 2022, pp. 127–129.
- [w7] F. B. Sorbelli, F. Corò, C. M. Pinotti, and A. M. Shende. “Automated Picking System Employing a Drone”. In: *Proceedings of the 1st International Workshop on Wireless sensors and Drones in Internet of Things (Wi-DroIT)*. IEEE, 2019, pp. 633–640.
- [w8] A. Bagchi, F. Corò, C. M. Pinotti, and V. Ravelomanana. “Border effects on connectivity for randomly oriented directional antenna networks”. In: *Proceedings of the 17th Annual Mediterranean Ad Hoc Networking Workshop (Med-Hoc-Net)*. IEEE, 2018, pp. 1–8.

## Italian Conferences and Workshops

- [i1] T. Calamoneri and F. Corò. “(Eternal) Vertex Cover Number of Infinite and Finite Grid Graphs”. In: *Proceedings of the 21th Italian Conference on Theoretical Computer Science (ICTCS)*. To appear. CEUR Workshop Proceedings. CEUR-WS.org, 2023.
- [i2] F. B. Sorbelli, F. Corò, S. K. Das, L. Palazzetti, and C. M. Pinotti. “Cooperative Truck-Drone Scheduling Approach for Last-Mile Deliveries”. In: *Proceedings of the 22nd Italian Conference on Theoretical Computer Science (ICTCS)*. Vol. 3072. CEUR Workshop Proceedings. CEUR-WS.org, 2021, pp. 40–45.
- [i3] T. Calamoneri and F. Corò. “A Realistic Model for Rescue Operations after an Earthquake”. In: *Proceedings of the 21th Italian Conference on Theoretical Computer Science (ICTCS)*. Vol. 2756. CEUR Workshop Proceedings. CEUR-WS.org, 2020, pp. 28–32.
- [i4] M. A. Mehrizi, F. Corò, E. Cruciani, G. D’Angelo, and S. Ponziani. “Models and Algorithms for Election Control through Influence Maximization”. In: *Proceedings of the 20th Italian Conference on Theoretical Computer Science (ICTCS)*. Vol. 2504. CEUR Workshop Proceedings. CEUR-WS.org, 2019, pp. 97–103.
- [i5] L. Bartoli, F. Corò, C. M. Pinotti, and A. M. Shende. “Drone Delivery System in a Mixed Landscape”. In: *4th Italian Conference on ICT for Smart Cities And Communities (I-Cities)*. 2018.