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Academic Positions & Research Profile

Assistant Professor in Robotics at ECE / Democritus University of Thrace (DUTH), Xanthi, Greece

Visiting Researcher (Spring 2026), Worcester Polytechnic Institute (WPI), Worcester, MA, USA

Head of the **AURA** research group (<https://aura-lab.org/>), leading a 15-member team comprising 4 postdoctoral researchers, 6 PhD candidates, and 5 research engineers. The group conducts research in multi-robot autonomy, artificial intelligence, and control, with a strong focus on real-world applications including *border surveillance, defense, smart mobility, water management, precision agriculture, cultural heritage, and wildfire management*.

Research work centers on *autonomous robotic systems, path planning, multi-robot coordination, and emergent behaviors*.

Education

PhD in Electrical & Computer Engineering – Democritus University of Thrace, Greece, 2012–2017, Grade: *Excellent*, Thesis: “**Towards a fully autonomous and cooperative deployment of multi-robot teams for exploration and coverage in unknown or partially known environments**”

5-year Diploma in Electrical & Computer Engineering – Democritus University of Thrace, Greece, 2007–2012.

Teaching & Supervision

Course Offerings:

- 2026: Robotics, ECE/Democritus University of Thrace
- 2026: Computational Intelligence, ECE/Democritus University of Thrace
- 2025: Large-Scale Systems, ECE/Democritus University of Thrace
- 2025: Detection & Estimation Theory, ECE/Democritus University of Thrace
- 2024: Information Systems Analysis & Design, Neapolis University Pafos.

Supervision

Co-supervision of several **PhD dissertations** and **master's theses** on multi-robot path planning, RL for robotic control, collaborative autonomous vehicles, and neuromorphic decision-making for autonomous navigation.

Funding – Research and Development Projects

EU-based:

- **Horizon Europe:** [SMARTIN](#), [AQUAMON](#), [VICTORIOUS](#), [TEXTailES](#), [I-Driving](#), [TRACE](#), [PERIVALLON](#)
- **BMVI:** [REACTION](#)
- **H2020:** [TREEADS](#), [NESTOR](#), [CREST](#), [ARESIBO](#), [ROBORDER](#), [RAWFIE](#)
- **FP7:** [Local4Global](#), [Noptilus](#), [AGILE](#), [sFLY](#)

GR-based:

- **HFRI:** [OPUS](#)
- **ESPA:** [CameSense](#)
- **EPAnEK:** [HAV](#), [ASPiDA](#), [CoFLY](#), [VINO](#)

Invited Talks

- “[Overcoming UAV Limitations Through Swarm Intelligence](#)”, RBE Colloquium Speaker Series, Department of Robotics, Worcester, MA, US, 2026.
- “The Untapped Technology of Unmanned Aerial Vehicles”, [Robot Strange in the Multiverse of Robotics EESTEC Workshop](#), ECE, DUTH, Xanthi, Greece, 2022.
- “Multi Robot Coverage Path Planning to Unlock Cooperative Swarm of UAVs”, Keynote at the 19th International Bhurban Conference on Applied Sciences & Technology, Islamabad, Pakistan, 2022.
- “DARP: Divide Areas Algorithm for Optimal Multi-Robot Coverage Path Planning”, National Oceanography Centre, Marine autonomous robotic systems, Southampton, England, 2021.
- “In the Dawn of Self-deployed Autonomous Vehicles”, IEEE Emerging Technologies Webinar, Online, 2020.

Academic Service

- **Expert evaluator** for the European Commission, under contract with the European Research Executive Agency (REA): EIC Transition calls/Advanced Innovation Challenge Accelerating Physical AI: *Embodied Intelligence for the Next Frontier of AI-Powered Robotics*
- **Associate Editor**: Frontiers in Robotics and AI; IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS).
- **Reviewer** for journals and conferences including Automatica, Autonomous Robots, IEEE RA-L, Robotics and Autonomous Systems, Journal of Intelligent & Robotic Systems, Applied Sciences, IEEE Access, IEEE T-AES, ICRA, IROS, ICUAS, and others.
- Co-organizer of “**Learning Machines Reading Group**” ([CERTH](#) & [Athena RC](#)) and several workshops / outreach events on robotics and reinforcement learning.

Open-Source Software & Datasets

Software Systems

- *ChoosePath*, Holistic Platform for the design and monitoring of multi-UAV missions [[online platform](#)], [[video](#)].
- *DARP*, Divide Areas algorithm for optimal multi-robot coverage path planning. Open-source repository ecosystem [[GitHub](#)], [[GitHub](#)], [[GitHub](#)], [[GitHub](#)], [[GitHub](#)], [[ros wiki](#)], [[GitHub](#)], [[GitHub](#)], [[GitHub](#)], [[GitHub](#)], [[GitHub](#)] + 3rd party extensions (among others: [[GitHub1](#)], [[GitHub2](#)], [[GitHub3](#)], [[GitHub4](#)])
- Multi-Robot Coordination Algorithm, Objective-Agnostic, [[GitHub](#)].
- *CoFLY*, User-friendly precision agriculture platform, [[GitHub](#)], [[video](#)].
- *MarsExplorer*, Coverage of Unknown Terrains via Deep RL and Procedurally Generated Environments, [[GitHub](#)].
- *LFG*, Generation of realistic and diverse large-scale 3D landfill models, [[GitHub](#)].
- *ROBOT IQ*, Open-source and universally adaptable robotics library for any robot, [[GitHub](#)], [[video](#)].
- *ACRE*, Model-free and off-policy reinforcement learning algorithm, specifically designed for the incorporation of additional exploration signals without altering the environment’s rewards, [[GitHub](#)].
- *OverFOMO*, Overcome the Fear Of Missing Out: Active-sensing UAVs coverage for precision agriculture, [[GitHub](#)].
- Multi-Robot-BCD, Real-time learning for a team of multiple UAVs aiming at the collaborative maximization of the quantity and quality of detected objects, [[GitHub](#)].
- *DUNE*: Unified Navigation Environment, [[GitHub](#)], [[video1](#)], [[video2](#)].

Datasets – Resources

- *CamelinaWeed*: An Expert-Agronomist-Annotated UAV RGB and Multispectral Dataset for Weed and Crop Monitoring in Camelina sativa, [[zenodo](#)].
- *DroneWaste*: UAV imagery dataset for waste recognition in real landfill sites, [[zenodo](#)].
- *BaleUAVision*: Hay Bales UAV Captured Dataset under different conditions, [[zenodo](#)].
- *Delivering Data*: A Real-World Dataset for Last-Mile Delivery Optimization, One-month dataset of pharmaceutical product delivery tasks from a 3PL provider, [[zenodo](#)].
- *CoFly-WeedDB*, Labeled UAV image dataset for weed detection and species recognition, [[zenodo](#)].

Organizing Research and Dissemination Activities

- *Researchers’ Night*, presenting research results on the application of UAV swarms in precision agriculture and critical-infrastructure monitoring, Thessaloniki, Greece, 2021 and 2020.
- 5th Electrical and Computer Engineering Student Conference ([ECESCON](#)), member of the organizing committee, Xanthi, Greece, 7–10 April 2012.
- Publishing science communication articles on [Medium](#) about reinforcement learning basics, offline RL, and multi-robot coverage.