PERSONAL INFORMATION

Pericles Panagiotou

Dr. Mechanical Engineer

Thessaloniki, Greece

(+30) 2310 996 412

peripan@eng.auth.gr

Sex Male | Date of birth 31/01/1991 | Nationality Greek

EDUCATION AND TRAINING

September 2018 – today

Postdoctoral researcher

Department of Mechanical Engineering
Aristotle University of Thessaloniki

Postdoctoral research field: “Blended-Wing-Body optimization techniques for UAV applications”

January 2014 – April 2018

PhD candidate

Doctoral Thesis Degree: Excellent

Department of Mechanical Engineering
Aristotle University of Thessaloniki

Doctoral Thesis Title: “Aerodynamic efficiency and performance enhancement of fixed-wing Unmanned Aerial Vehicles using novel configurations and techniques”

Doctoral thesis
https://aristotleuniversity-my.sharepoint.com/:b:/g/personal/paperikl_office365_auth_gr/EdYfQMhBWhBMrfPvo-K2nHwBRTIQy_5VSj3ez0Fua2kUYg?e=2Jwe9g

October 2008 – November 2013

Dipl. Mechanical Engineer

Diploma Degree: 8.26/10.00

Department of Mechanical Engineering
Aristotle University of Thessaloniki

- Field of expertise: “Aeronautics and Turbomachines”
- Diploma Thesis: “Conceptual design of a MALE UAV”, Thessaloniki, November 2013
- Graduate Thesis: “UAVs: range – altitude classification”, Thessaloniki 2011

WORK EXPERIENCE

Nov 2018 – Present

Researcher in the “DELAER” research project

Research program co-funded by European and National Funds (RESEARCH-CREATE-INNOVATE) for the design, development, manufacturing and flight testing of a prototype Unmanned Aerial Vehicle System (UAS), based on a tactical Blended-Wing-Body configuration, which will deliver supplies and equipment to isolated territories and islands.

- Lead designer, configuration layout design, aerodynamics, performance and stability calculations, computational simulations, optimization studies, ground and flight testing.

UAV integrated Research Center (UAV-iRC), Center of Inderdisciplinary Research and Innovation (CIRI), AUTH

Nov 2018 – Present

Researcher in the “MPU” research project

Research program co-funded by European and National Funds (RESEARCH-CREATE-INNOVATE) for the design, development, manufacturing and flight testing of a prototype Unmanned Aerial Vehicle System (UAS), based on a small-scale VTOL configuration, for aerial mapping and surveillance operations.

- Configuration layout design, aerodynamics, performance and stability calculations, computational simulations, ground and flight testing.

UAV integrated Research Center (UAV-iRC), Center of Inderdisciplinary Research and Innovation (CIRI), AUTH

Aug 2017 – Present

Researcher in the “ADVENTUS”

Research program co-funded by European Union (European Region Development Fund, ERDF) and National Resources (National Strategic Reference Framework, NSRF), aiming in the development of advanced wind turbines.

- Aerodynamic design, performance and stability calculations, windtunnel experiments.

UAV integrated Research Center (UAV-iRC), Center of Inderdisciplinary Research and Innovation (CIRI), AUTH

Aug 2017 – Present

Researcher in the “Design and Development of Unmanned Aerial Systems” project

Research program funded by INTRACOM SA aiming to the full-scale development of a Medium-Altitude-Long-Endurance Unmanned-Aerial-Vehicle (MALE UAV) for surveillance operations.

- Aerodynamic design, performance and stability calculations, ground and flight testing.

Laboratory of Fluid Mechanics and Turbomachinery (LFMT AUTH)

Sep 2015 – Apr 2018

Researcher in ULTIMATE program (Ultra Low emission Technology Innovations for Mid-century Aircraft Turbine Engines)

Research program in the framework of “HORIZON 2020” funded by COMMISSION OF THE EUROPEAN COMMUNITIES RESEARCH DIRECTORATE GENERAL FOR RESEARCH AND INNOVATION

- Aerodynamic calculations and novel concept design for future commercial airliner platforms.

Laboratory of Fluid Mechanics and Turbomachinery (LFMT AUTH)

February 2014 – October 2015

Researcher in HCUAV program (Hellenic Civil Unmanned Aerial Vehicle)

Research program that involves the design and construction of a MALE UAV, developed to carry-out civil operations in Greece.

- Lead designer, aerodynamic design coordination, configuration layout, performance and stability calculations, computational simulations, optimization studies, presizing-tool development, ground and flight testing.

Laboratory of Fluid Mechanics and Turbomachinery (LFMT AUTH)

October 2013 – March 2017

Researcher in LEMCOTEC program

Research project co-funded by the European Commission within the 7th Framework Programme (2007-2013), aiming in the reduction of air-traffic emissions through the improvement of the thermal efficiency of aero-engines.

- Computational simulations, experiments.

Laboratory of Fluid Mechanics and Turbomachinery (LFMT AUTH)

SKILLS AND TRAITS

Mother tongue: Greek

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
	Certificate of Proficiency in English				
German	B1	B1	B1	B1	B1
	Zertifikat Deutsch				
French	B1	B1	B1	B1	B1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user
Common European Framework of Reference for Languages

Personal skills

- Proven and applied experience in the development of experimental, fixed-wing, tactical Unmanned Aerial Vehicle prototypes in collaboration with the academia and the industry. From the mission requirements, to the conceptual, preliminary, and detail design phases, as well as platform integration, ground and flight testing.
- Highly advanced technical skills in the fields of aircraft design and configuration layout, applied aerodynamics, experimental fluid mechanics, aerial vehicle stability and performance.
- Development of aircraft sizing tools and modules for the estimation of geometrical, weight, aerodynamics, stability, and performance parameters.
- Experience in airworthiness regulations and procedures, both from a designer’s and a certifier’s perspective.
- Experience in project proposal preparation and project management, involving task scheduling, risk assessment, resources allocation, timetable and costs management.
- Advanced communication skills, strong will for collaboration, as well as sense commitment to the team objectives.
- Experience in working in restricted environments and in the handling of classified information and infrastructure.

Computer skills

- Aircraft sizing, aerodynamics, stability and performance estimation tools
- CFD modelling software (external and internal flows, turbulence modelling, etc.)
- CAD modelling (parametric design of aerial vehicles and other configurations)
- Experimental equipment software
- Programming languages (Python, Fortran, Java, etc.)
- Other engineering related software (MATLAB, Wolfram Mathematica, etc.)

,

Driving licence: Driving licence category: B

ADDITIONAL INFORMATION

Seminars

- Daniel Raymer, Aircraft Conceptual Design Short Course (May 2016)
- Daniel Raymer, Aircraft Configuration Layout, Loft, & CAD Course (May 2016)
- International Graduate Summer School in Aeronautics and Astronautics, Beihang University (2016)
- Introduction to Wind Turbine Aerodynamics, Delft University of Technology, "Athens Programme" (March 2012)
- BEST Thessaloniki Spring course, course teacher, Aristotle University of Thessaloniki (April 2015)

Military service

- 71st Airmobile Brigade, 595 airmobile infantry battalion:
  Bootcamp, basic training and special forces airmobile training (November 2018 – January 2019)
- 71st Airmobile Infantry Brigade, HQ Company, Research and Informatics unit:
  Support in the activities of the NATO Response Force (NRF) and European Union Battleground (HELBROC BG) bases located in the 71st Airmobile HQ military camp. Management of classified networks, hardware, and servers, as well as electronic communications and documents (January 2019 – May 2019)
- III Army Corps / NATO Rapid Deployable Corps Greece (NATO NRDC GR) HQ, NATO Communications and Information Systems (NATO CIS) unit:
  Support in the activities of the NATO NRDC GR HQ. Management of highly classified (NATO Clearance, Class D' environment) networks, hardware, and servers, as well as electronic communications and documents.
- Participation in the "Gordian Knot 2019" NATO Exercise. (May 2019 – August 2019)

Other

- Lecturer of the Aircraft Design and Control course, Aeronautics and Turbomachinery branch (2020, Department of Mechanical Engineering, AUTH)
- Unmanned Aerial Vehicle airworthiness certifier authorized by the Hellenic Civil Aviation Authority (HCAA)
- Certificate of computer knowledge (2013, Department of Mechanical Engineering, AUTH)

Honours and awards

- Article Reviewer, "Aerospace Science and Technology", Elsevier
- Article Reviewer, "Acta Astronautica", Elsevier
- Article Reviewer, "Journal of Cleaner Production", Elsevier
- Article Reviewer, "Journal of Aerospace Engineering", ASCE
- Article Reviewer, "Aerospace", MDPI
- Article Reviewer, "Applied Sciences", MDPI
- Article Reviewer, "Symmetry", MDPI
- Technical Chamber of Greece (TEE-TCG) award for ranking amongst the three best Engineering students for each of the academic years 2010-2011, 2011-2012, 2012-2013, 2013-2014, 2014-2015.
- 2nd in a row amongst the graduates (2013, Department of Mechanical Engineering, AUTH)

Scientific Journal Publications

1. **P. Panagiotou**, K. Yakinthos, Aerodynamic efficiency and performance assessment of fixed-wing UAVs, Aerospace Science and Technology. (2019) 105575.
2. **P. Panagiotou**, S. Fotiadis-Karras, K. Yakinthos, Conceptual design of a Blended Wing Body MALE UAV, Aerospace Science and Technology. 73 (2018) 32–47. doi:10.1016/j.ast.2017.11.032.
3. **P. Panagiotou**, George Ioannidis, Ioannis Tzivinikos and Kyros Yakinthos, "Experimental investigation of the wake and the wingtip vortices of UAV model", MDPI, Aerospace Journal (2018).
4. **P. Panagiotou**, E. Giannakis, G. Savaidis, K. Yakinthos, "Aerodynamic and Structural Design for the Development of a MALE UAV", Aircraft Engineering and Aerospace Technology, 2017. doi:10.1108/AEAT-01-2017-0031.R1.
5. **P. Panagiotou**, I. Tsavlidis, K. Yakinthos, "Conceptual design of a hybrid solar MALE UAV", Aerospace Science and Technology, 53 (2016) 207–219. doi:10.1016/j.ast.2016.03.023.
6. **P. Panagiotou**, P. Kaparos, C. Salpingidou, K. Yakinthos, "Aerodynamic design of a MALE UAV", Aerospace Science and Technology, 50 (2016) 127–138. doi:10.1016/j.ast.2015.12.033.
7. **P. Panagiotou**, A. Sideridis, K. Yakinthos, A. Goulas, "Turbulence Kinetic Energy Balance in the Wake of a Sharp-edged Highly Swept Delta Wing", Flow Turbulence Combust. (2015) 1–22. doi:10.1007/s10494-015-9611-7.
8. **P. Panagiotou**, P. Kaparos, K. Yakinthos, "Winglet design and optimization for a MALE UAV using CFD", Aerospace Science and Technology, vol. 39, Dec. 2014, pp. 190–205.

International Scientific Conferences Publications

1. **P. Panagiotou,** D. Mitridis, T. Dimopoulos, S. Kapsalis, S. Dimitriou, AIAA Scitech 2020 Forum, American Institute of Aeronautics and Astronautics, Orlando, FL, 2020.
2. T. Dimopoulos, **P. Panagiotou,** K. Yakinthos, Stability study and flight simulation of a Blended-Wing-Body UAV, Proceedings of the 10th EASN International Conference on Innovation in European Aeronautics Research, Athens, September 2019.
3. C. Bliamis, **P. Panagiotou,** K. Yakinthos, Hypersonic vehicle control concept using an active shock bump technique, 22nd AIAA International Space Planes and Hypersonic Systems and Technologies Conference, AIAA SPACE 2018, American Institute of Aeronautics and Astronautics, Orlando, FL, 2018.
4. **P. Panagiotou**, M. Efthymiadis, D. Mitridis, K. Yakinthos, "A CFD-aided investigation of the morphing winglet concept for the performance optimization of fixed-wing MALE UAVs", in: 2018 Applied Aerodynamics Conference, AIAA AVIATION Forum, American Institute of Aeronautics and Astronautics, Atlanta, Georgia, 2018. doi:10.2514/6.2018-4220
5. P. Kaparos, S. Koltsakidis, **P. Panagiotou**, K. Yakinthos, Experimental investigation of DBD plasma actuators on a BWB aerial vehicle model, in: 2018 Applied Aerodynamics Conference, AIAA AVIATION Forum, American Institute of Aeronautics and Astronautics, Atlanta, Georgia, 2018. doi:10.2514/6.2018-4028.
6. **P. Panagiotou**, S. Fotiadis-Karras, P. Tsormpatzoglou, K. Yakinthos, "Investigation of the BWB concept for fixed-wing UAV applications", Proceedings of the 7th EASN International Conference on Innovation in European Aeronautics Research, Warsaw, September 2017.
7. **P. Panagiotou**, and K. Yakinthos, "Parametric aerodynamic study of Blended-Wing-Body platforms at low subsonic speeds for UAV applications", 35th AIAA Applied Aerodynamics Conference, American Institute of Aeronautics and Astronautics, Denver, CO, 2017.
8. **P. Panagiotou**, E. Giannakis, G. Savaidis, K. Yakinthos, "Aerodynamic and structural design for the development of a MALE UAV", Proceedings of the 6th EASN International Conference on Innovation in European Aeronautics Research, Porto, October 2016.
9. P. Kaparos, Z. Vlahostergios, **P. Panagiotou**, K. Yakinthos, "Drag reduction in aircraft wings using dielectric barrier discharge (DBD) plasma flow control actuators", Proceedings of 2nd Environmentally Compatible Air Transport System (ECATS) Conference, Athens 7-9 November 2016.
10. **P. Panagiotou**, C. Salpingidou, P. Kaparos, K. Yakinthos, "A CFD-Aided design procedure, performance estimation and optimization study of a MALE UAV", Proceedings of 8th GRACM International Congress on Computational Mechanics Volos, 12-15 July 2015.
11. Amanatiadis, E. G. Karakasis, L. Bampis, T. Giitsidis, **P. Panagiotou**, G. Sirakoulis, A. Gasteratos, P. Tsalides, A. Goulas, and K. Yakinthos, "The HCUAV project: Electronics and software development for medium altitude remote sensing", Proceedings of IEEE SSRR 2014.
12. N. Pitatzis, G. Savaidis, **P. Panagiotou**, K. Yakinthos, "Design and FE Calculations of a Lightweight Civil Unmanned Air Vehicle", 58th Ilmenau Scientific Colloquium, 2014.
13. **P. Panagiotou**, N. Pitatzis, G. Savaidis, K. Yakinthos, "Fluid Structure Interaction computations on a MALE UAV", 35th Int. Symposium on Mechanics and Materials, 2014.
14. N. Pitatzis, E. Giannakis, A. Arvanitopoulos, K.Porikis, N. Nikoglou, **P. Panagiotou**, G. Savaidis, "Unmanned Air Vehicles - Structural Aspects for Lightweight Design", 35th Int. Symposium on Mechanics and Materials, 2014.

National Scientific Conferences Publications

1. Ι. Τζιβινίκος, **Π. Παναγιώτου**, Κ. Υάκινθος, "Πειραματική διερεύνηση του απόρρου μοντέλου μη-επανδρωμένου αεροχήματος", Πρακτικά 10ης Επιστημονικής Συνάντησης, Πανελλήνιο Συνέδριο για τα Φαινόμενα Μηχανικής Ρευστών (ΡΟΗ), Πάτρα 2 -3 Δεκεμβρίου 2016.
2. Κ. Υάκινθος, Δ. Μισηρλής, Ζ. Βλαχοστέργιος, **Π. Παναγιώτου**, Χ. Σαλπιγγίδου, Π. Καπαρός, Α. Γούλας, "Ερευνητική δραστηριότητα εργαστήριου - Το πρώτο ελληνικό πολιτικό μη-επανδρωμένο αερόχημα. Από τον πρώιμο αεροδυναμικό σχεδιασμό έως την πτήση", Πρακτικά 10ης Επιστημονικής Συνάντησης, Πανελλήνιο Συνέδριο για τα Φαινόμενα Μηχανικής Ρευστών (ΡΟΗ), Πάτρα 2 -3 Δεκεμβρίου 2016.
3. Χ. Σαλπιγγίδου, Π. Καπαρός, Ν. Λαγόπουλος, Β. Λυμπερόπουλος, Χ. Λυτροκάπης, **Π. Παναγιώτου**, Ο. Ρόζος, Φ. Σαββόπουλος, Κ. Υάκινθος, "Σχεδιασμός μη-επανδρωμένου ελαφρού αεροχήματος. Μέρος Ι: πρώιμος σχεδιασμός και διαστασιολόγηση", 9ο Πανελλήνιο Συνέδριο "Φαινόμενα Ροής Ρευστών" ΡΟΗ 2014.
4. **Π. Παναγιώτου**, Π. Καπαρός, Ν. Λαγόπουλος, Β. Λυμπερόπουλος, Χ. Λυτροκάπης, Ο. Ρόζος, Φ. Σαββόπουλος, Χ. Σαλπιγγίδου, Κ. Υάκινθος, "Σχεδιασμός μη-επανδρωμένου ελαφρού αεροχήματος. Μέρος ΙΙ: προκαταρκτικός σχεδιασμός και διαστασιολόγηση", 9ο Πανελλήνιο Συνέδριο "Φαινόμενα Ροής Ρευστών" ΡΟΗ 2014.
5. Ι. Τσαβλίδης, **Π. Παναγιώτου**, Ν. Μπόσινας, Κ. Υάκινθος, "Διαστασιολόγηση και σχεδιασμός ηλιακού μη-επανδρωμένου αεροσκάφους", 10ο Εθνικό Συνέδριο για τις ήπιες μορφές ενέργειας, Ινστιτούτο Ηλιακής Τεχνικής, 2014.