## Dr. Grigorios E. Koulouras, Associate Professor

Research Laboratory of Telecommunications, Signal Processing and Intelligent Systems (TelSiP)

Department of Electrical and Electronic Engineering, University of West Attica

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# **Curriculum Vitae**

## **General Information**

Dr. Grigorios E. Koulouras was born in Athens, Greece, in 1978. He received his B.Sc. degree in Electrical & Electronic Engineering from the Technological Educational Institute of Athens, Greece, in 1999. He got his M.Sc. degree in Data Communication Systems from the Department of Electronic and Computer Engineering, Brunel University, U.K., in 2001. Meanwhile, he completed his compulsory military service as an Electronic Engineer in the Department of Electronic War of the Hellenic Army. In 2003, he received scholarship for Ph.D. from the State Scholarship Foundation and joined School of Engineering and Design, Brunel University, UK, for pursuing a Ph.D. degree under the supervision of Prof. John Stonham. In 2008 he obtained his Ph.D. from Brunel University. In 2010, he joined the Department of Electronic Engineering of the Technological Educational Institute of Athens. He is currently working as an Associate Professor in the Department of Electrical and Electronic Engineering of University of West Attica. He is also co-founder of the "Telecommunications, Signal Processing and Intelligent Systems Research Laboratory (TelSiP)".

Dr. Grigorios E. Koulouras has extensive research, academic and professional experience that lie in three fields. The first one is in electronic circuits design, microcontrollers, Embedded Systems, flash memories and Data Acquisition Systems. The second one focuses on IoT, Cloud Computing, virtualization, containerization and dockerization technologies, as well as on the automated management of virtual or non-virtual computer systems by the use of open source CM (Configuration Management) tools (i.e. Ansible). Finally, the third one deals with Telecommunications and in particular with the design of high-speed fiber optic and wireless networks. From 2007 to 2010 he worked for the Hellenic Telecommunications Organisation (O.T.E. S.A.) at the Department of Network Technologies as staff of the sub-department, which develops the cable infrastructure (both copper and fiber optics). He was responsible for the design, validation and acceptance of the backbone fiber optics network.

Dr. Grigorios E. Koulouras has supervised or is currently supervising more than 50 postgraduate and undergraduate theses, while he has an extensive teaching experience in the context of postgraduate and undergraduate taught courses focused on Embedded Systems, IoT and Cloud Computing. During his tenure as a faculty member, three (3) PhDs were awarded, in which he participated in their seven-member examination committee. In two (2) of these, which have been successfully completed, he also participated in their three-member advisory committee, from their inception to their completion. He is currently supervising five (5) doctoral candidates and also serves on two (2) other three-member doctoral advisory committees. His published work includes more than 60 papers in international scientific conference proceedings, edited volumes, scientific journals and book chapters and also his research work has been cited more than 2560 times (https://goo.gl/3mca62) in the scientific literature according to Google Scholar search engine (h-index: 15, i10-index: 19). He has served as a guest editor and reviewer for international scientific conference proceedings and scientific journals. He has also served as a principal investigator or researcher in several research programs.

Dr. Grigorios E. Koulouras served the Hellenic Telecommunications & Post Commission (EETT) for 4 years as a Member of its Plenary from January 2018 to January 2022.

## **Education**

2003 – 2007: Doctor of Philosophy – School of Engineering and Design – Electrical Engineering & Electronics Research – Brunel

University - Middlesex - UK

PhD Title: "A Versatile Data Acquisition System for Capturing Electromagnetic Emissions in VHF Band."

(Hellenic NARIC Degree Recognition Number: 8-3049)

2000 – 2001: Master of Science in Data Communication Systems – Department of Electronic and Computer Engineering – Brunel

University - Middlesex - UK

(Hellenic NARIC Degree Recognition Number: 8-1664)

1995 – 1999: Bachelor of Science – Department of Electronic Engineering – Technological Educational Institution of Athens – GR

## **Academic Appointments**

04/2021 – Present: Associate Professor – University of West Attica, Department of Electrical and Electronic Engineering 03/2018 – 04/2021: Assistant Professor – University of West Attica, Department of Electrical and Electronic Engineering 07/2016 – 03/2018: Assistant Professor – Technological Educational Institute of Athens, Department of Electronic Engineering

10/2010 – 06/2016: Lecturer – Technological Educational Institute of Athens, Department of Electronic Engineering

Page 1 of 13 Last Update: 30/06/2025

## **Additional Scientific Appointments**

01/2018 - 01/2022: Member of the Plenary of the Hellenic Telecommunications & Post Commission (EETT)

Dr. Grigorios E. Koulouras served the Hellenic Telecommunications & Post Commission (EETT) for 4 years as a Member of its Plenary from January 2018 to January 2022 (Official Greek Government Gazette  $7/YO\Delta\Delta/11-01-2018$ ). During this period he participated in more than 185 plenary sessions ( $842^{nd}-1022^{nd}$  session) and dealt with more than 2500 issues on the agendas of his responsibilities. In addition to EETT's ad-hoc Hearing Committees, he participates in Permanent Hearing Committees (Official Greek Government Gazette 159/YO $\Delta\Delta/21-03-2018$ ) aimed at speeding up the Authority's audit work:

- (A) Member of the Standing Committee on Hearings on Radio Equipment and Radio Links.
- (B) Member of the Standing Committee on Hearings on Domain Names.
- (C) Alternate Member of the Standing Committee on Hearings on Antenna Construction.
- (D) Alternate Member of the Standing Committee on Multimedia Information Hearings.

According to the Official Greek Government Gazette 5567/B/12-12-2018, he also participates in Permanent Hearing Committees dealing with Postal Issues:

- (A) Member of the Standing Committee on Hearings on Audits Carried out in Postal Businesses.
- (B) Alternate Member of the Standing Committee on Repeat Hearings on Postal Issues.

By the Decision 34449/29-11-2019 of the President of EETT on "Designation of the Integrated Project Team Leader" and other roles for each program co-financed by the NSRF 2014-2020 and EETT, Dr. Koulouras appointed Head of the Project Management Team (IPT Leader) of the Program "Radio Frequency Spectrum Management System with Embedded Electronic Request Platform (RFSMS)", MIS 5029669.

## **Other Professional Appointments**

03/2007 – 09/2010: Electronic Engineer at the O.T.E. S.A.. Staff of the Design and Cable Infrastructure (both copper and fiber optics) subdepartment – Department of Network Technology (Responsible for the design, validation and acceptance of the backbone fiber optics network)

03/2005 – 02/2007: Electronic Engineer at the Geodynamic Institute of the National Observatory of Athens (Responsible for the technical maintenance and for monitoring the national seismic activity)

05/2000 – 12/2000: System Operator of Greek Data Network HellasCom (Administration Data Network HellasCom with NMS Software)

#### **Honors and awards**

- Three and half (3½) years scholarship from the State Scholarships Institution, for pursuing Ph.D. degree at Brunel University.
- Scholarship from the State Scholarships Institution for the performance excellence during my course at the Technological Educational Institute of Athens, Department of Electronic Engineering, in all academic years.

## **Language Skills**

- Greek (Mother language)
- English

Page 2 of 13 Last Update: 30/06/2025

#### **Research Grants**

11/2021 - 11/2023: Research - Create - Innovate, Greek General Secretariat of Research and Technology

**Project:** «Development of a novel model predictive control method for sewage treatment plants aiming at optimizing

performance and minimizing energy consumption»

**Coordinator:** Prof. Alex Alexandridis (Department of Electrical and Electronic Engineering – University of West Attica) **Associate Coordinator:** Associate Prof. Grigorios Koulouras (Department of Electrical and Electronic Engineering –

University of West Attica)

Research Team: Telecommunications, Signal Processing and Intelligent Systems Research Laboratory (TelSiP)

Funded: National Strategic Reference Framework (NSRF) 2014-2020

Project budget of TelSiP: 202.591,75 €. Total project budget: 997.059,75 €.

Implementation Period: 30/11/2021 – 29/11/2023

10/2018 - 10/2021: Research - Create - Innovate, Greek General Secretariat of Research and Technology

Project: «i-React, Next Generation»
Consortium: • EMTech (Greece)

• TELSIP – University of West Attica (Greece)

**Coordinator:** Prof. Alex Alexandridis (Department of Electrical and Electronic Engineering – University of West Attica) **Associate Coordinator:** Associate Prof. Grigorios Koulouras (Department of Electrical and Electronic Engineering –

University of West Attica)

Research Team: Telecommunications, Signal Processing and Intelligent Systems Research Laboratory (TelSiP)

Funded: National Strategic Reference Framework (NSRF) 2014-2020

Project budget of TelSiP: 163.960,85 €.

Project budget of EMTech: 297.500,00 €.

Total project budget: 461.460,85 €.

Implementation Period: 17/10/2018 - 16/10/2021

04/2013 - 09/2015: Bilateral Collaboration in Research and Technology between Greece and China

Project: «Multi-channel Microwave Radiometry for Internal Body Temperature Measurements»

Consortium: • EMTech (Greece)

TELSIP – TEI of Athens (Greece)
 MEDISP – TEI of Athens (Greece)

• WLDCL – NTUA (Greece)

• Beijing Guoke Huayi Technology Company Limited (China)

**Coordinator:** Prof. Nassiopoulos Athanasios (Department of Electronic Engineering – TEI of Athens) **Research Team:** Telecommunications and Signal Processing Research Laboratory (TelSiP) – TEI of Athens

Funded: EUROPEAN REGIONAL DEVELOPMENT FUND

**Total project budget:** 441.438,75 €.

Implementation Period: 01/04/2013 - 30/09/2015

12/2011 - 01/2014: Digital Plan

**Project:** «Services for virtual laboratories - TEI of Athens»

Sub-project: «Development of added-value services for virtual laboratories»

**Coordinator:** Dr. Founta Ifigenia (Assistant Professor – Department of Informatics – TEI of Athens) **Research Team:** Telecommunications and Signal Processing Research Laboratory (TelSiP) – TEI of Athens

Funded: EUROPEAN REGIONAL DEVELOPMENT FUND

Total project budget: 340.000,00 €.

Implementation Period: 15/12/2011 - 31/01/2014

12/2012 - 09/2015: EPEAEK - Archimedes III

**Project:** «Reinforcement of Research Groups at the Technological Educational Institute (TEI of Athens)» **Sub-project:** «Multidirectional study of pre-earthquake disorders with emphasis on E/M radiation» (No46)

**Coordinator:** Dr. Nomicos Constantinos (Emeritus Professor – Department of Electronic Engineering – TEI of Athens)

Funded: National Strategic Reference Framework (NSRF) 2007-2013

Total project budget: 100.000,00 €.

**Implementation Period:** 01/12/2012 – 30/09/2015

03/2012 - 08/2014: EPEAEK - Archimedes III

Project: «Reinforcement of Research Groups at the Technological Educational Institute (TEI of Athens)»

**Sub-project:** «SCODO - Experimental evaluation of new co-doped scintillator materials for use in combined tomographic imaging systems» (No26)

**Coordinator:** Prof. Kourkoutas Konstantinos (Department of Physics Chemistry and Material Technology – TEI of Athens)

Funded: National Strategic Reference Framework (NSRF) 2007-2013

Total project budget: 100.000,00 €.

Implementation Period: 01/03/2012 - 31/08/2014

Page 3 of 13 Last Update: 30/06/2025

05/2013 - 04/2014: EPEAEK - Archimedes III

Project: «Reinforcement of Research Groups at the Technological Educational Institute (TEI of Athens)»

Sub-project: «Novel applications of x-ray dual energy for early diagnosis in osteoporosis, mammography and

angiography - XDUALGNOSIS» (No13)

Coordinator: Prof. Fountos George (Department of Biomedical Engineering – TEI of Athens)

Funded: National Strategic Reference Framework (NSRF) 2007-2013

Total project budget: 100.000,00 €.

Implementation Period: 01/05/2013 - 30/04/2014

12/2012 – 01/2013: Contract Research Agreement

**Project:** «Experimental Development of Telematics Array Transceiver by using DSRC Technology» **Coordinator:** Dr. Koulouras Grigorios (Lecturer – Department of Electronic Engineering – TEI of Athens)

Funded: Bee Tech S.A.

Total project budget: 9.225,00 €.

Implementation Period: 14/12/2012 - 31/01/2013

09/2005 - 08/2007: EPEAEK - Archimedes II

Project: «Reinforcement of Research Groups at the Technological Educational Institute (T.E.I. of Athens)»

Sub-project: «Programs for environmental protection and environmental education» (No1)

Coordinator: Prof. Drakopoulos Panos (Department of Optics – TEI of Athens)

Funded: Third Community Support Framework (3rd CSF) 2000-2006

Total project budget: 414.975,00 €.

Implementation Period: 01/09/2005 - 31/08/2007

09/2005 - 08/2007: EPEAEK - Archimedes I

Project: «Reinforcement of Research Groups at the Technological Educational Institute (T.E.I. of Athens)»

Sub-project: «Electromagnetic Disturbances and Correlation with Earthquakes» (No16)

Task: «Design and Implementation of a new datalogger system»

Coordinator: Prof. Nomicos Constantinos (Department of Electronic Engineering – TEI of Athens)

Funded: Third Community Support Framework (3rd CSF) 2000-2006

**Total project budget:** 51.623,00 €.

Implementation Period: 01/04/2004 - 31/08/2006

Page 4 of 13 Last Update: 30/06/2025

## **Courses Taught**

Dr. Grigorios E. Koulouras has supervised several doctoral candidates and has taught both undergraduate and postgraduate programs.

#### **Undergraduate Courses**

During his tenure, he has taught at two (2) different Undergraduate Programs in the Departments of «Electrical and Electronic Engineering» and «Biomedical Engineering» of the University of Western Attica.

- (1) 5 years Bachelor Degree at the Department of «Electrical and Electronic Engineering»
- (2) 4 years Bachelor Degree at the Department of « Biomedical Engineering»

He has organized and taught five (5) different undergraduate courses in the above Undergraduate Programs.

- (1) «Internet of Things»
- (2) «Cloud Computing»
- (3) «Introduction to microcontroller Systems»
- (4) «Microprocessors Programmable and Digital Systems»
- (5) «Microcontroller and Embedded Systems»

These courses are detailed below.

03/2018 - Today: Module: «Internet of Things», «Cloud Computing»

BSc Course Title: «Electrical and Electronic Engineering»

**Department:** Department of Electrical and Electronic Engineering

University: University of West Attica

10/2010 - 03/2018: Module: «Introduction to microcontroller systems», «Microprocessors - Programmable Digital Systems»,

«Microcontrollers and Embedded Systems»

BSc Course Title: «Electronic Engineering»

Department: Department of Electronic Engineering

**University: TEI of Athens** 

10/2012 - 03/2018: Module: «Microprocessors - Programmable Digital Systems»

**BSc Course Title:** «Biomedical Engineering» **Department:** Department of Biomedical Engineering

**University: TEI of Athens** 

10/2011 - 07/2012: Module: «Object Oriented Programming - Applications»

BSc Course Title: «Electronic Engineering»

**Department:** Department of Electronic Engineering

**University:** TEI of Athens

#### **Postgraduate Courses**

During his tenure, he has taught at six (6) different Postgraduate Programs in the Departments of «Electrical and Electronic Engineering» and «Graphic Design and Visual Communication» of the University of Western Attica.

- (1) MSc Course Title: «Internet of Things and Intelligent Environments»
- (2) MSc Course Title: «Communications and Data Networks»
- (3) MSc Course Title: «Master of Science by Research in Electrical and Electronics Engineering»
- (4) MSc Course Title: «New Technologies and Marketing Smart Packaging»
- (5) MSc Course Title: «Embedded and Telecommunication Systems»
- (6) MSc Course Title: «Design and Development of Advanced Electronic Systems»

He has organized and taught seven (7) different postgraduate courses in the above Postgraduate Programs.

- (1) «Internet of Things»
- (2) «Embedded and Real-time Systems»
- (3) «Cloud Computing and Data Analytics»
- (4) «Network Resources Management and Cloud Computing»
- (5) «Software and Data for Smart Packaging»
- (6) «Printed Antennas Programming Environment in Smart Packaging»
- (7) «Embedded Systems»

These courses are detailed below.

03/2018 - Present: Modules: «IoT», «Embedded and Real-time Systems», «Cloud Computing and Data Analytics»

MSc Course Title: «Internet of Things and Intelligent Environments»

Department: Department of Electrical and Electronic Engineering

University: University of West Attica

03/2018 – Present: Modules: «IoT», «Network Resources Management and Cloud Computing»

MSc Course Title: «Communications and Data Networks»

Department: Department of Electrical and Electronic Engineering

**University:** University of West Attica

Page 5 of 13 Last Update: 30/06/2025

03/2018 - Present: Modules: «IoT», «Embedded and Real-time Systems», «Cloud Computing and Data Analytics», «Network Resources

Management and Cloud Computing»

MSc Course Title: «Master of Science by Research in Electrical and Electronics Engineering»

**Department:** Department of Electrical and Electronic Engineering

University: University of West Attica

03/2018 - 09/2019: Modules: «Software and Data for Smart Packaging»

**MSc Course Title:** «New Technologies and Marketing – Smart Packaging» **Department:** Department of Graphic Design and Visual Communication

University: University of West Attica

10/2017 – 03/2018: **Modules:** «Embedded Systems», «IoT»

MSc Course Title: «Embedded and Telecommunication Systems»

**Department:** Department of Electronic Engineering

University: TEI of Athens 10/2011 – 09/2017: Module: «Embedded Systems»

MSc Course Title: «Design and Development of Advanced Electronic Systems»

**Department:** Department of Electronic Engineering

**University:** TEI of Athens

## **Supervised Theses**

Dr. Grigorios E. Koulouras has supervised or is currently supervising more than 50 postgraduate and undergraduate theses in the areas of Embedded Systems, Internet of Things (IoT), Cloud Computing and Computational Intelligence.

#### **Announcement of Doctorates**

During his tenure as a faculty member, three (3) PhDs were awarded, in which he participated in their seven-member examination committee. In two (2) of these, which have been successfully completed, he also participated in their three-member advisory committee, from their inception to their completion. The list of PhDs is shown in detail below:

		«Development of optimization and data-driven model predictive control
		methods using computational intelligence techniques: Design and
		applications with emphasis on the economic operation of engineering
		systems»
	Doctoral Thesis Title:	
		«Ανάπτυξη μεθόδων βελτιστοποίησης και βασισμένου-σε-δεδομένα
		προβλεπτικού αυτομάτου ελέγχου με χρήση τεχνικών υπολογιστικής
		νοημοσύνης: Σχεδιασμός και εφαρμογές με έμφαση στην οικονομική
		λειτουργία συστημάτων μηχανικής»
	Doctor's Name:	Myron Papadimitrakis
	Department:	Electrical and Electronic Engineering
	University:	University of West Attica
1.	DOI:	http://dx.doi.org/10.26265/polynoe-5347
1.	Completion Date:	12/10/2023
	Year of Proclamation:	2024
	Supervisor:	Alex Alexandridis, Professor UniWA
		Alex Alexandridis, Professor UniWA
	Three-member Advisory Committee:	Grigorios Koulouras, Associate Professor UniWA
		Elias Zois, Associate Professor UniWA
		Alex Alexandridis, Professor UniWA
	Seven-member Examination Committee:	Grigorios Koulouras, Associate Professor UniWA
		Elias Zois, Associate Professor UniWA
		Konstantinos Psomopoulos, Professor UniWA
		Haralambos Sarimveis, Professor NTUA
		Kyriakos Vamvoudakis, Professor Georgia Institute of Technology
		Panos Patrinos, Associate Professor KU Leuven

Page 6 of 13 Last Update: 30/06/2025

		«Ανάπτυξη επιβλεπόμενων και μη επιβλεπόμενων μεθόδων μηχανικής
		μάθησης για την μοντελοποίηση χρονικά εξελισσόμενων συστημάτων με
	Doctoral Thesis Title:	εφαρμογές σε έξυπνα ηλεκτρικά δίκτυα»
		«A machine learning perspective of supervised and unsupervised methods
		for modelling time evolving systems with applications in smart grids»
	Doctor's Name:	Νικόλαος Γιαμαρέλος
	Department:	Electrical and Electronic Engineering
	University:	University of West Attica
	DOI:	http://dx.doi.org/10.26265/polynoe-5304
	Completion Date:	12/10/2023
2.	Year of Proclamation:	2024
	Supervisor:	Elias Zois, Associate Professor UniWA
		Elias Zois, Associate Professor UniWA
	Three-member Advisory Committee:	Grigorios Koulouras, Associate Professor UniWA
	·	Alex Alexandridis, Professor UniWA
		Elias Zois, Associate Professor UniWA
		Grigorios Koulouras, Associate Professor UniWA
		Alex Alexandridis, Professor UniWA
	Seven-member Examination Committee:	Konstantinos Psomopoulos, Professor UniWA
		Evangelos Zervas, Professor UniWA
		Dimitrios Kalyvas, Professor UniWA
		Emmanouel Karapidakis, Professor HMU
		«Ανάπτυξη και βαθμονόμηση μεθόδων αυτόματου ελέγχου μη γραμμικών
		συστημάτων με χρήση τεχνικών υπολογιστικής νοημοσύνης με έμφαση
		στον έλεγχο μη επανδρωμένων εναέριων οχημάτων»
	Doctoral Thesis Title:	
		«Development and tuning of automatic control methods for nonlinear
		systems using computational intelligence techniques with emphasis on the
	Do should Nove o	control of unmanned aerial vehicles»
	Doctor's Name:	Aristotelis S. Kapnopoulos
	Department: University:	Electrical and Electronic Engineering University of West Attica
	DOI:	http://dx.doi.org/10.26265/polynoe-5517
	Completion Date:	20/11/2023
3.	Year of Proclamation:	2024
	Supervisor:	Alex Alexandridis, Professor UniWA
	53,55,70001	Alex Alexandridis, Professor UniWA
	Three-member Advisory Committee:	Xenofon-Dionisios Kandris, Professor UniWA
	•	Elias Zois, Associate Professor UniWA
		Alex Alexandridis, Professor UniWA
		Xenofon-Dionisios Kandris, Professor UniWA
		Elias Zois, Associate Professor UniWA
	Seven-member Examination Committee:	Pantelis Malatestas, Professor UniWA
		Grigorios Koulouras, Associate Professor UniWA
		Dimitrios Pyromalis, Associate Professor UniWA
		Haralambos Sarimveis, Professor NTUA

Page 7 of 13 Last Update: 30/06/2025

# **Supervision of PhD Candidates**

Currently, Dr. Grigorios E. Koulouras supervises five (5) PhD Candidates, while participating in a total of seven (7) three-member advisory committees of PhD Candidates, as shown in detail below:

	Proposed Doctoral Thesis Title:	«Modeling and Optimization of Heterogeneous IoT Systems through
		Federated Learning and Blockchain Federated Learning Distributed Machine
		Learning Techniques»
		«Μοντελοποίηση και βελτιστοποίηση ετερογενών ΙοΤ συστημάτων μέσω
		τεχνικών κατανεμημένης μηχανικής μάθησης Federated Learning και
		Blockchain Federated Learning»
	PhD Candidate:	Fotios Zantalis
1.	Department:	Electrical and Electronic Engineering
	University:	University of West Attica
	Registration Date:	Academic Year 2018-2019, Winter Semester
	Expected Completion Year:	2025
	Supervisor:	Grigorios Koulouras, Associate Professor UniWA
	Three-member Advisory Committee:	Grigorios Koulouras, Associate Professor UniWA
		Evangelos Zervas, Professor UniWA
		Alex Alexandridis, Professor UniWA
		«Internet of Things and Cloud Computing with emphasis on security in
		intelligent environments»
	Proposed Doctoral Thesis Title:	«Διαδίκτυο των Πραγμάτων και Υπολογιστική Νέφους με έμφαση στην
		ασφάλεια στα ευφυή περιβάλλοντα»
	PhD Candidate:	Stylianos Katsoulis
	Department:	Electrical and Electronic Engineering
2.	University:	University of West Attica
	Registration Date:	Academic Year 2018-2019, Spring Semester
	Expected Completion Year:	2026
	Supervisor:	Grigorios Koulouras, Associate Professor UniWA
	- Cupervison	Grigorios Koulouras, Associate Professor UniWA
	Three-member Advisory Committee:	Xenofon-Dionisios Kandris, Professor UniWA
	initee-incliner Advisory Committee:	Haralampos Patrikakis, Professor UniWA
		«Study of signals possibly precursors to an earthquake by means of
		complex systems time series analysis methods»
	Proposed Doctoral Thesis Title:	«Μελέτη πιθανά πρόδρομων ενός σεισμού σημάτων με μεθόδους
		ανάλυσης χρονοσειρών πολύπλοκων συστημάτων»
	PhD Candidate:	Dimitrios Politis
	Department:	Electrical and Electronic Engineering
3.	University:	University of West Attica
J.	Registration Date:	Academic Year 2019-2020, Spring Semester
	Expected Completion Year:	2026
	Supervisor:	Stylianos Potirakis, Professor UniWA
	Supervisor.	Stylianos Potirakis, Professor UniWA  Stylianos Potirakis, Professor UniWA
	Three-member Advisory Committee:	Grigorios Koulouras, Associate Professor UniWA
		Ilias Potamitis, Professor HMU
		«Applied Cryptography for Internet of Things»
	Proposed Doctoral Thesis Title:	«Εφαρμοσμένη Κρυπτογραφία για το Διαδίκτυο των Πραγμάτων»
	PhD Candidate:	Vasileios Velakis
	Department:	Electrical and Electronic Engineering
	University:	University of West Attica
4.		
	Registration Date:	Academic Year 2021-2022, Spring Semester
	Expected Completion Year:	2027
	Supervisor:	Grigorios Koulouras, Associate Professor UniWA
	Three-member Advisory Committee:	Grigorios Koulouras, Associate Professor UniWA
		Evangelos Zervas, Professor UniWA
		Alex Alexandridis, Professor UniWA

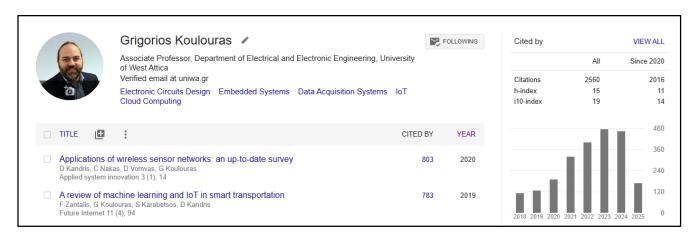
Page 8 of 13 Last Update: 30/06/2025

5.		«Cybersecurity and Applied Cryptography for Internet of Things»
	Proposed Doctoral Thesis Title:	«Κυβερνοασφάλεια και Εφαρμοσμένη Κρυπτογραφία για το Διαδίκτυο των
		Πραγμάτων»
	PhD Candidate:	Evangelos Nannos
	Department:	Electrical and Electronic Engineering
	University:	University of West Attica
	Registration Date:	Academic Year 2021-2022, Spring Semester
	Expected Completion Year:	2027
	Supervisor:	Grigorios Koulouras, Associate Professor UniWA
		Grigorios Koulouras, Associate Professor UniWA
	Three-member Advisory Committee:	Sotirios Karabetsos, Associate Professor UniWA
		Elias Zois, Associate Professor UniWA
		«Development of Algorithms for Wireless Sensors Networks»
	Proposed Doctoral Thesis Title:	«Ανάπτυξη αλγορίθμων για ασύρματα δίκτυα αισθητήρων»
	PhD Candidate:	Georgios Siamantas
	Department:	Electrical and Electronic Engineering
	University:	University of West Attica
6.	Registration Date:	Academic Year 2023-2024, Winter Semester
	Expected Completion Year:	2028
	Supervisor:	Xenofon-Dionisios Kandris, Professor UniWA
		Xenofon-Dionisios Kandris, Professor UniWA
	Three-member Advisory Committee:	Alex Alexandridis, Professor UniWA
		Grigorios Koulouras, Associate Professor UniWA
	Proposed Doctoral Thesis Title:	«Application of Computational Intelligence Algorithms for the optimization
		of Earthquake Early Warning Systems»
		«Εφαρμογή Αλγορίθμων Υπολογιστικής Νοημοσύνης για τη
		Βελτιστοποίηση Συστημάτων Έγκαιρης Προειδοποίησης Σεισμών»
	PhD Candidate:	Konstantinos Boukouras
	Department:	Electrical and Electronic Engineering
7.	University:	University of West Attica
	Registration Date:	Academic Year 2024-2025, Spring Semester
	Expected Completion Year:	2028
	Supervisor:	Grigorios Koulouras, Associate Professor UniWA
		Grigorios Koulouras, Associate Professor UniWA
	Three-member Advisory Committee:	Grigorios Kaltsas, Professor UniWA
		Vasileios Karastathis, Research Director NOA

Page 9 of 13 Last Update: 30/06/2025

#### **Publications – Scientific Work**

His published work includes more than 60 papers in international scientific conference proceedings, edited volumes, scientific journals and book chapters and also his research work has been cited more than <u>2560 times</u> (https://goo.gl/3mca62) in the scientific literature according to Google Scholar search engine (h-index: 15, i10-index: 19). He has served as a guest editor and reviewer for international scientific conference proceedings and scientific journals.



#### **Peer Review Activities:**

- IEEE Transactions on Evolutionary Computation
- IEEE Sensors Journal
- Elsevier Ad Hoc Networks
- MDPI Sensors
- MDPI Electronics
- MDPI Machine Learning and Knowledge Extraction
- MDPI Big Data and Cognitive Computing
- MDPI IoT
- IEEE EDERC (European Embedded Design in Education and Research Conference)

#### **Editorial Work:**

- Future Internet (Guest Editor of the Special Issue entitled "Computational Intelligence in Internet of Things")
- Computers (Guest Editor of the Special Issue entitled "Integration of Cloud Computing and IoT")
- IoT (Guest Editor of the Special Issue entitled "IoT Meets AI: Driving the Next Generation of Technology")

#### **Publications in Book Chapters:**

301

Book Title: "Mobile Ad hoc Networks: Current Status and Future Trends" (Edited by Jonathan Loo, Jaime Lloret Mauri and Jesús Hamilton Ortiz), Publisher: CRC Press, 1 edition (3 Nov 2011), ISBN-13: 978-1439856505. Chapter 18: "Adaptive Routing Provision by Using Bayesian Inference" co-authored by Ilias Kiourktsidis, Jonathan Loo, and **Grigorios Koulouras**.

B02.

J03.

104.

Book Title: "Mobile Ad hoc Networks: Current Status and Future Trends" (Edited by Jonathan Loo, Jaime Lloret Mauri and Jesús Hamilton Ortiz), Publisher: CRC Press, 1 edition (3 Nov 2011), ISBN-13: 978-1439856505. Chapter 19: "Adaptive Flow Control in Transport Layer Using Genetic Algorithm" co-authored by Ilias Kiourktsidis, Jonathan Loo, and **Grigorios Koulouras**.

## Journal publications:

J01. **Koulouras G.**, Kontakos K., Stavrakas I., Stonham J. and Nomicos C. (08/2005) – "Embedded Compact Flash™ – A new data storage system designed for a data acquisition system", IEEE Circuits and Devices Magazine, Volume 21, Issue 4, pp. 27-34, ISSN: 8755-3996

J02. Stavrakas I., Clarke M., **Koulouras G.**, Stavrakakis G. and Nomicos C. (02/2007) – "Study of directivity effect on Electromagnetic emissions in the HF band as earthquake precursors: Preliminary results on field observations", Tectonophysics, Volume 431, Issue 1-4, pp. 263-271

Eftaxias K., Contoyiannis Y., Balasis G., Karamanos K., Kopanas J., Antonopoulos G., **Koulouras G.** and Nomicos C. (08/2008) – "Evidence of fractional-Brownian-motion-type asperity model for earthquake generation in candidate pre-seismic electromagnetic emissions", Natural Hazards and Earth System Science, Volume 8, Issue 4, pp. 657-669

**Koulouras G.,** Balasis G., Kiourktsidis I., Nannos E., Kontakos K., Stonham J., Ruzhin Y., Eftaxias K., Kavouras D. and Nomicos C. (04/2009) – "Discrimination between preseismic electromagnetic anomalies and solar activity effects", Physica Scripta, Volume 79, Issue 4, pp. 12, doi:10.1088/0031-8949/79/04/045901

Page 10 of 13 Last Update: 30/06/2025



- J06. Petraki E., Nikolopoulos D., Fotopoulos A., Panagiotaras D., **Koulouras G.**, Zisos A., Nomicos C., Louizi A. and Stonham J. (02/2013) "Self-organised critical features in soil radon and MHz electromagnetic disturbances: Results from environmental monitoring in Greece", Applied Radiation and Isotopes, Volume 72, pp. 39–53, doi:10.1016/j.apradiso.2012.09.005
- J07. Gurkan Tuna, Orhan Arkoc, **Grigorios Koulouras**, Stelios M. Potirakis (10/2013) "Navigation System of an Unmanned Boat for Autonomous Analyses of Water Quality", Journal "Electronics and Electrical Engineering", Volume 19, No. 8, pp.3-7, doi:10.5755/j01.eee.19.8.5387
- J08. Gurkan Tuna, Stelios M. Potirakis, **Grigorios Koulouras** (12/2013) "Implementing a Trust and Reputation Model for Robotic Sensor Networks", Journal "Electronics and Electrical Engineering", Volume 19, No. 10, pp.3-8, doi:10.5755/j01.eee.19.10.5884
- J09. Theodoropoulos S., Kandris D., Samarakou M. and **Koulouras G.** (02/2014) "Fuzzy Regulator Design for Wind Turbine Yaw Control", The Scientific World Journal, doi:10.1155/2014/516394
- J10. Contoyiannis, Y., Potirakis S. M., Kopanas J., Antonopoulos G., **Koulouras G.**, Eftaxias K., and Nomicos C.. (02/2014) "On the recent seismic activity at Kefalonia island (Greece): Manifestations of an Earth system in critical state." arXiv preprint arXiv:1401.7458v2.
- J11. Michail C., Kalyvas N., Valais I., Fudos I., Fountos G., Dimitropoulos N., **Koulouras G.**, Kandris D., Samarakou M. and Kandarakis I. (05/2014) "Figure of Image Quality and Information Capacity in Digital Mammography", BioMed Research International, Volume 2014, Article ID 634856, 11 pages, doi:10.1155/2014/634856
- J12. Petraki E., Nikolopoulos D., Chaldeos Y., **Koulouras G.**, Nomicos C., Yannakopoulos H. P., Kottou S. and Stonham J. (07/2014) "Fractal evolution of MHz electromagnetic signals prior to earthquakes: results collected in Greece during 2009.", Geomatics, Natural Hazards and Risk, Volume 7, Number 2, pp. 550-564, (2016), doi: 10.1080/19475705.2014.945496
- J13. Nikolopoulos D., Petraki E., Nomicos C., **Koulouras G.**, Kottou S. & Yannakopoulos P. H. (01/2015) "Long-memory trends in disturbances of radon in soil prior to the twin ML= 5.1 earthquakes of 17 November 2014 Greece.", Journal of Earth Science & Climatic Change, 6(244), 2, doi: 10.4172/2157-7617.1000244
- J14. Potirakis S. M., Contoyiannis Y., Eftaxias K., **Koulouras G.** and Nomicos C. (03/2015). "Recent field observations indicating an Earth system in critical condition before the occurrence of a significant earthquake.", Geoscience and Remote Sensing Letters, IEEE, 12(3), 631-635., doi: 10.1109/LGRS.2014.2354374
- J15. **Koulouras G.**, Alexandridis A., Karabetsos S., Grispos S., Stoumpis G., Charamis P. and Nassiopoulos A. (04/2016). –

  "An Embedded PID Temperature Control Scheme with Application in a Medical Microwave Radiometer.", Journal of
  Engineering Science and Technology Review JESTR, Volume 9, Issue 4, pp. 56-60, ISSN: 1791-2377
- J16. Paterakis F., Nafpaktitis D., Darwish M., **Koulouras G.**, Janbey A., & Hloupis G. (12/2016). "Implementation of Equal Areas-PWM in Multilevel Inverters." International Review of Electrical Engineering (IREE), 11(6), 558-566, doi: 10.15866/iree.v11i6.9812
- J17. Contoyiannis Y., Potirakis S. M., Kopanas J., Antonopoulos G., **Koulouras G.,** Eftaxias K., & Nomicos, C. (07/2017). "On the recent seismic activity at eastern Aegean Sea: Analysis of fracture-induced electromagnetic emissions in terms of critical fluctuations.", arXiv preprint, arXiv:1708.00320.
- J18. Livanos N.-A., Hammal S., Nikolopoulos C., Baklezos A., Capsalis C., **Koulouras G.**, Charamis P., Vardiambasis I., Nassiopoulos A., Kostopoulos S., Asvestas P., Cavouras D. and Siores E. (12/2017). "Design and Interdisciplinary Simulations of a Hand-held Device for Internal-Body Temperature Sensing Using Microwave Radiometry.", IEEE Sensors Journal, (2018), doi: 10.1109/JSEN.2018.2791443
- J19. Paterakis F., Nafpaktitis D., Darwish M., and **Koulouras G.** (2018) "A Modified Algorithm based on the Equal-Areas PWM for the Extend of Linear Operation of a Microprocessor-Controlled PWM-VSI.", International Journal of Robotics and Mechatronics, 5(1), 12-19, doi: 10.21535%252Fijrm.v5i1.983
- J20. Potirakis S. M., Contoyiannis Y., Melis N. S., **Koulouras G.**, Kopanas J., Antonopoulos G., Eftaxias K., & Nomicos C. (11/2018) "Preliminary results concerning the fracture-induced electromagnetic emissions recorded prior to the Mw 6.7 Earthquake on October 25, 2018 south of Zakynthos.", arXiv preprint, arXiv:1811.11015v1.
- J21. Potirakis S. M., Schekotov A., Contoyiannis Y., Balasis G., **Koulouras G. E.**, Melis N. S., Eftaxias K., & Nomicos C. (03/2019)., "On Possible Electromagnetic Precursors to a Significant Earthquake (Mw= 6.3) Occurred in Lesvos (Greece) on 12 June 2017.", Entropy, 21(3), 241, doi: 10.3390/e21030241
- J22. Zantalis F., **Koulouras G.**, Karabetsos S. and Kandris D. (04/2019). "A review of Machine Learning and IoT in Smart Transportation.", Journal of Future Internet 2019, 11(4), 94, doi: 10.3390/fi11040094
- J23. Korovesis N., Kandris D., **Koulouras G.**, and Alexandridis A. (11/2019) "Robot Motion Control via an EEG-Based Brain-Computer Interface by using Neural Networks and Alpha Brainwaves.", Journal of Electronics 2019, 8(12), 1387, doi:10.3390/electronics8121387
- J24. Kandris D., Nakas C., Vomvas D. and **Koulouras G.** (02/2020) "Applications of Wireless Sensor Networks: An Up-to-Date Survey.", Applied System Innovation, 3(1), 14, doi:10.3390/asi3010014

Page 11 of 13 Last Update: 30/06/2025

- J25. Zantalis F., **Koulouras G.** and Karabetsos S., "Blockchain Technology: A Framework for Endless Applications," in IEEE
  - Consumer Electronics Magazine, vol. 13, no. 2, pp. 61-71, March 2024, doi: 10.1109/MCE.2023.3248872
- J26. **Koulouras G.**, Katsoulis S., & Zantalis F. (02/2025). Evolution of Bluetooth Technology: BLE in the IoT Ecosystem. Sensors (Basel, Switzerland), 25(4), 996, doi: 10.3390/s25040996
- J27. Kormpos C., Zantalis F., Katsoulis S., & **Koulouras G.** (04/2025). Evaluating Deep Learning Architectures for Breast Tumor Classification and Ultrasound Image Detection Using Transfer Learning. Big Data and Cognitive Computing,

9(5), 111, doi: 10.3390/bdcc9050111.

J28. Zantalis F., & Koulouras G. (06/2025). Data-Bound Adaptive Federated Learning: FedAdaDB. *IoT*, 6(3), 35, doi: 10.3390/iot6030035

## **Conference publications:**

- CO1. Stavrakas I., **Koulouras G.**, Nomicos C., Melis N. and Stavrakakis G. (11/2003) "Algorithmic analysis of Electromagnetic variations possibly related to earthquake events", 1st International Conference on Earthquake Prediction, Athens Greece
- CO2. Kapiris P., Nomikos K., Kopanas J., Antonopoulos G., **Koulouras G.**, Skountzos P., Zissos A., Mylonas S. and Eftaxias K. (09/2004) "Lessons from the Athens earthquake", 4th International Workshop on magnetic, electric and electromagnetic methods in seismology and volcanology, La Londe les Maures France
- CO3. Piliouras N., Kalatzis I., Georgiadis P., Ninos D., **Koulouras G.**, Minadakis G., Cavouras D. and Nomikos C. (09/2004) "Electromagnetic seismic signal analysis employing pattern recognition methods", 1st International Conference "From Scientific Computing to Computational Engineering" Athens Greece, ISBN: 960-8457-28-9
- CO4. **Koulouras G.**, Kontakos K., Minadakis G., Stavrakas I., Stonham J. and Nomicos C. (07/2005) "A Data Acquisition System using Compact Flash™ memory", 2005 WSEAS 2nd International Conference on ENGINEERING EDUCATION, Vouliagmeni Athens Greece, pp. 519-524, ISBN: 960-8457-28-9
- CO5. Pelegris P., Petropoulos F., Klimopoulos A., **Koulouras G.**, Kontakos K., Chatzidiakos P., Nassiopoulos A. and Nomicos C. (07/2005) "A telemetric system based on GPRS technology", 2005 WSEAS 2nd International Conference on ENGINEERING EDUCATION, Vouliagmeni Athens Greece, pp. 528-531, ISBN: 960-8457-28-9
- C06. Georgiadis P., Piliouras N., Sidiropoulos K., **Koulouras G.**, Minadakis G., Cavouras D. and Nomicos C. (07/2005) "Smartphone–based system for monitoring electromagnetic signals", 2005 WSEAS 2nd International Conference on ENGINEERING EDUCATION, Vouliagmeni Athens Greece, pp. 525-527, ISBN: 960-8457-28-9
- C07. Tsiriggakis V., Efthimiatos K., **Koulouras G.**, Stavrakas I., Kapiris P., Ninos K., Katsimaglis G., Voudouris K., Banitsas K., Eftaxias K., Koulopoulos A., Panagiotopoulos L. and Nomicos C. (07/2005) "A versatile telemetric system based on mixed Internet and wireless transmission", 2005 WSEAS 2nd International Conference on ENGINEERING EDUCATION, Vouliagmeni Athens Greece, pp. 532-536, ISBN: 960-8457-28-9
- CO8. Stavrakas I., Clarke M., **Koulouras G.**, Stavrakakis G. and Nomicos C. (04/2006) "Study of Electromagnetic emissions in the HF band earthquake precursors", European Geosciences Union 2006, Geophysical Research Abstracts, Vienna Austria, Volume 8, SRef-ID: EGU06-A-07568
- C09. **Koulouras G.**, Kontakos K., Minadakis G., Stonham J., Stavrakakis G., Nomicos C. (04/2006) "Capturing Electromagnetic Emissions in the VHF Band possibly related to Earthquake Activity", European Geosciences Union 2006, Geophysical Research Abstracts, Vienna Austria, Volume 8, SRef-ID: EGU06-A-10156
- C10. **Koulouras G.**, Kontakos K., Avgoustis G., Stonham J., Ruzhin Y., Stavrakakis G., Eftaxias C. and Nomicos C. (04/2007) "Electromagnetic emissions in the 142 to 415 MHZ band", European Geosciences Union 2007, Geophysical Research Abstracts, Vienna Austria, Volume 9, SRef-ID: EGU2007-A-04778
- C11. Ruzhin Yu., Nomicos C., Afraimovich E., Bershadskaya I., **Koulouras G.** and Fomichev V. (04/2007) "On possibility of seismic VHF network calibration by simultaneous observations of solar flare radio emission at spaced sites", European Geosciences Union 2007, Geophysical Research Abstracts, Vienna Austria, Volume 9, SRef-ID: EGU2007-J-04801
- C12. Drakopoulos G. P., Chandrinos A., Dounas C., **Koulouras G.**, Nomikos C., Poulos S., Sianoudis I., Thanos I. and Zervakis V. (04/2007) "Design and Realization of an Inexpensive Transmittance and Fluorescence Meter: Initial Reporting", CIESM 2007, International Commission for Scientific Exploration of the Mediterranean Sea, Istanbul Turkey, Volume 38, pp.139
- C13. **Koulouras G.**, Balasis G., Kiourktsidis I., Nannos E., Kontakos K., Stonham J., Ruzhin Y., Eftaxias K. and Nomicos C. (04/2008) "Solar activity and Electromagnetic emissions in VHF band acquired from ground base monitors during "Martin Luther King Storm" happened on January 15th and 17th 2005", European Geosciences Union 2009, Geophysical Research Abstracts, Vienna Austria, Volume 10, SRef-ID: EGU2008-A-05081
- C14. Bogdos G., Tassoulas E., Vereses A., Papapanagiotou A., Filippi K., **Koulouras G.** and Nomicos C. (04/2009) "Design and Optimization of a Telemetric system for appliance in earthquake prediction", European Geosciences Union 2009, Geophysical Research Abstracts, Vienna Austria, Volume 11, SRef-ID: EGU2009-2026
- C15. **Koulouras G.**, Balasis G., Kontakos K., Ruzhin Y., Avgoustis G., Kavouras D. and Nomicos C. (04/2009) "Discrimination between preseismic electromagnetic anomalies and solar activity effects", European Geosciences Union 2009, Geophysical Research Abstracts, Vienna Austria, Volume 11, SRef-ID: EGU2009-2030

Page 12 of 13 Last Update: 30/06/2025



Agiakatsikas D., Koulouras G., Minadakis G., Tasoulas E., Kontakos K., Potirakis S. M. and Nomicos C. (09/2014) – "A

Conference eRA-9 2014, The SynEnergy Forum, Piraeus, Greece, 22 - 24 September 2014.

C27.

C28.

C29.

C30.

C31.

C32.

Potirakis S. M., Koulouras G., Agiakatsikas D., Minadakis G., Kontakos K. and Nomicos C. (09/2014) - "Design and Implementation of a Low-Cost Special Purpose System for the Reception of Preseismic Electromagnetic Emissions", International Scientific Conference eRA-9 2014, The SynEnergy Forum, Piraeus, Greece, 22 - 24 September 2014.

Stoumpis G., Karabetsos S., Zantalis F., Koulouras G. and Nassiopoulos A. (05/2015) – "A remote laboratory approach for studying the IEEE 802.11 WLAN standards", in Proc. 3rd Pan-Hellenic Conf. Electronics and Telecommunications (PACET2015), Ioannina, May 8-10, 2015.

Karabetsos S., Koulouras G., Charamis P., Adamidis G., Vardiambasis I. O. and Nassiopoulos A. (06/2015) -"Development of the RF Front-end of a Multi-Channel Microwave Radiometer for Internal Body Temperature Measurements", in proc. International Conference on Bio-Medical Instrumentation and related Engineering and Physical Sciences (BIOMEP 2015), IOP Journal of Physics Conference Series, Athens, June 18-20, 2015.

Politis, D. Z., Potirakis, S. M., Malkotsis, P., Papadopoulos, N., Dimakos, D., Exarchos, M., Liadopoulos, E., Contoyiannis, Y. F., Charitopoulos, A., Kontakos, K., Doukakis, D., Koulouras, G., Melis, N., and Eftaxias, K. (04/2023) – "New features of the ELSEM-Net electromagnetic monitoring stations network and analysis of recent data associated with strong earthquakes", EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-2126, doi: 10.5194/egusphereegu23-2126, 2023.

Malkotsis, P., Papadopoulos, N., Politis, D. Z., Dimakos, D., Exarhos, M., Liadopoulos, E., Contoyiannis, Y., Charitopoulos, A., Kontakos, K., Koulouras, G., Melis, N., Eftaxias, K., and Potirakis, S. M. (2023). ELSEM-Net, a network of ground-based telemetric stations for the monitoring of fracture-induced electromagnetic emissions in Greece: Instrumentation, management and analysis of recent observations associated with strong earthquakes. Annals of Geophysics, 66(6), SE638-SE638.

Katsoulis, S., Koulouras, G. and Christakis, I. (2024), "Energy-Efficient Data Acquisition and Control System using both LoRaWAN and Wi-Fi Communication for Smart Classrooms," 2024 13th International Conference on Modern Circuits and Systems Technologies (MOCAST), Sofia, Bulgaria, 2024, pp. 1-4, doi: 10.1109/MOCAST61810.2024.10615862

Page 13 of 13 Last Update: 30/06/2025