TECHNICAL UNIVERSITY OF CRETE

School
of Electrical
and Computer
Engineering

Annual Activity Report
Sep 2021 – Aug 2022

Chania 2022

Faculty Members

Computer Science

- Georgios Chalkiadakis, Associate Professor
- Antonios Deligiannakis, Professor
- Minos Garofalakis, Professor
- Michail Lagoudakis, Professor
- Katerina Mania, Professor
- Euripides Petrakis, Professor
- Vasilis Samoladas, Associate Professor

Electronics and Computer Architecture

- Costas Balas, Professor
- Matthias Bucher, Associate Professor
- Apostolos Dollas, Professor
- Konstantinos Gyftakis, Associate Professor
- Sotiris Ioannidis, Associate Professor
- Fotios Kanellos, Associate Professor
- Eftichios Koutroulis, Associate Professor
- Georgios Stavrakakis, Professor

Systems

- Nikolaos Bekiaris – Lyberis, Associate Professor

Telecommunications

- Aggelos Bletsas, Professor
- Vassilios Digalakis, Professor – o n leave
- Dionissios Hristopulos, Professor
- George Karystinos, Professor
- Athanasios Liavas, Professor
- Michael Paterakis, Professor
- Thrasyvoulos Spyropoulos, Professor
- Michail Zervakis, Professor

Sciences

- Angelakis Dimitris, Associate Professor
- Demosthenes Ellinas, Professor
- Daphne Manoussaki, Assistant Professor
- Minos Petrakis, Associate Professor

Professors Emeriti

- Stavros Christodoulakis
- Konstantinos Kalaitzakis

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Georgios Chalkiadakis
Rank: Associate Professor
Years in rank: 6.5
Full-time or part-time: Full-time
Lab affiliation: Intelligent Systems Laboratory

A – Teaching

- Undergraduate courses taught
  - COMP 302: Design and Development of Information Systems (mandatory)
  - COMP 311: Artificial Intelligence
  - COMP 512: Multi-agent Systems

- Graduate courses taught
  - At the **Erasmus+ Mobility Blended Intensive Project 2022** (organized by the Technical University of Liberec, in collaboration with the University of Kragujevac, the Technical University of Crete, and the University of Aegean), Georgios is lecturer of the course: *"Learning in Multiagent Worlds",* as part of the program "*Advanced Tools for Multidisciplinary Machine Learning and Big Data: Data Science for future Medicine, Industry, Business, Education and Environment".*
  - At the **Biomedical Engineering Graduate MSc Program** (a joint graduate program offered jointly by the University of Crete, the Technical University of Crete, and the Foundation for Research and Development – Hellas), Georgios is teaching the following graduate course:

    BME-16 **Artificial Intelligence and Medical Decision Support Systems** (Spring 2021, Spring 2022) [co-taught with Michail Lagoudakis]

- Curriculum & course development
  - Developed or updated course material/slides for all aforementioned courses taught

B – Publications

- Publications in refereed journals
  - Athanasios Aris Panagopoulos, Filippos Christianos, Michail Katsigiannis, Konstantinos Mykoniatis, Georgios Chalkiadakis, Marco Pritoni, Therese Peffer, Orestis P. Panagopoulos, Emmanouil S. Rigas,

David E. Culler, Nicholas R. Jennings, and Timothy Lipman: **iPlugie: Intelligent Electric Vehicle Charging in Buildings with Grid-connected Intermittent Energy Resources.** *Simulation Modelling Practice and Theory (SIMPAT)*, 115, 2022. DOI:10.1016/j.simpat.2021.102439

- Publications in refereed conferences
  - Errikos Streviniotis, Athina Georgara, and Georgios Chalkiadakis: **ε−MC nets: A Compact Representation Scheme for Large Cooperative Game Settings**. In Proc. of the 15th International Conference on Knowledge Science, Engineering, and Management (KSEM-2022), Singapore, August 2022.
  - Dimitrios Troullinos, Georgios Chalkiadakis, Vasilis Samoladas and Markos Papageorgiou: **Max-sum with Quadtrees for Decentralized Coordination in Continuous Domains**. In Proc. of the 31st International Joint Conference on Artificial Intelligence and the 25th European Conference on Artificial Intelligence (**IJCAI-ECAI '22**), Vienna, Austria, July 2022.
  - Athanasia Karalakou, Dimitrios Troullinos, Georgios Chalkiadakis, and Markos Papageorgiou: **Deep RL Reward Function Design for Lane-Free Autonomous Driving.** In Proc. of the 20th International Conference on on Practical Applications of Agents and Multi-Agent Systems (**PAAMS '22**), L'Aquila, Italy, July 2022.
  - Charilaos Akasiadis, Georgios Iatrakis, Nikolaos Spanoudakis, and Georgios Chalkiadakis: **An Open MAS/IoT-based Architecture for Large-scale V2G/G2V.** In Proc. of the 20th International Conference on on Practical Applications of Agents and Multi-Agent Systems (**PAAMS '22**), L'Aquila, Italy, July 2022.
  - Dimitrios Troullinos, Georgios Chalkiadakis, Diamantis Manolis, Ioannis Papamichail, and Markos Papageorgiou M.: **Extending SUMO for Lane-Free Microscopic Simulation of Connected and Automated Vehicles**, **SUMO Conference** Proceedings, 3, 95–103, May 2022.
  - Dimitrios Troullinos, Georgios Chalkiadakis, Diamantis Manolis, Ioannis Papamichail and Markos Papageorgiou: **Lane-Free Microscopic Simulation for Connected and Automated Vehicles**. In Proc. of the 24th IEEE Intelligent Transportation Systems Conference (**ITSC-2021**), pp. 3292-3299, A Virtual Conference - Online, September 2021.

C – Awards & Distinctions

- **Second Prize at an International Competition (at the PowerTAC-2021 international automated power trading competition).**
  Georgios led a group of TUC students as the "manager" of the "TUC-TAC" team representing TUC.

D – Funded Projects

- Current projects:

  - **Project "ViP" ("Visit Planner: Integrated Information and Tour Planning Service for Cruise Tourism based on Hybrid Recommender Systems.")** A national (co-funded by the EU) 30-month project (commenced: Dec 2020). **Georgios' role:** *Georgios is the Principal Investigator for the Technical University of Crete team.* **Duration: 2020-2023**
  - **Project "TrafficFluid".** An <u>ERC Advanced Grant project</u> aspiring to develop a novel lane-free traffic paradigm in the ear of connected automated vehicels, awarded to and led by Professor Markos Papageorgiou.
    https://www.trafficfluid.tuc.gr/index.php?id=11785
    Georgios' role: *Georgios is a senior research team member, conducting research on employing AI and Multiagent Learning methods for lane-free traffic, and co-supervising a PhD student to this end.* **Duration: 2019-2024**
  - **Project "ANASA" ("Autonomous Robotic System for Urban Waste Recycling").** A national (co-funded by the EU) 48-month project.
    Role: *Georgios is a research team member, directly supervising a graduate student working for the project* **Duration: 2018-2022**

E – Professional service

- Society Technical Committee duties

  - **Chair** of the **Board of Directors** of the **European Association for Multi-Agent Systems (EURAMAS)**
  - Conference *Senior* Technical Program Committee service
    The 36th AAAI Conference on Artificial Intelligence, Vancouver, BC, Canada, February 2022 (**AAAI-2022**).
  - Conference Technical Program Committee service
    The 21st International Conference on Autonomous Agents and Multiagent Systems, Auckland, New Zealand, May 2022 **(AAMAS-22)**.

- Reviewing activities

  - Reviewer for the conferences I was a (Senior) Program Committee member at (mentioned above)
  - Editorial Board Member of The "Journal of Artificial Intelligence Research" (**JAIR**) [1/7/2013-30/11/2024]
  - Reviewer for several journals; a subset of the following:
    - The "International Journal of Game Theory" (IJGT)
    - The "International Game Theory Review" journal (IGTR
    - The "Artificial Intelligence" journal (AIJ)
    - The "Journal of Artificial Intelligence Research" (JAIR)
    - The "Autonomous Agents and Multi-Agent Systems" journal (JAAMAS)

- The "Journal of Machine Learning Research" (JMLR)
- The "IEEE Intelligent Systems" journal
- The "Artificial Intelligence Review" journal (AIRE)
- The journal "IEEE Transactions on Systems, Man and Cybernetics, Part A"
- The journal "IEEE Transactions on Systems, Man and Cybernetics, Part B"
- The journal "IEEE Transactions on Systems, Man and Cybernetics, Part C"
- The "ACM Transactions on Autonomous and Adaptive Systems" journal
- The "Advances in Artificial Intelligence" journal
- The "International Journal on Artificial Intelligence Tools" (IJAIT)
- The "Journal of the Brazilian Computer Society"
- The "Energy and Buildings" journal
- The "Transportation Research Part C" journal
- The "Transactions on Intelligent Transportation Systems" journal
- The "Frontiers in Sustainable Cities" journal review editor for the "Smart Technologies and Cities" section

F – Service to the School and the University

- School responsibilities

  - ECE's contact person (faculty member responsible) for the School's Erasmus+ Exchange Programs

G – Advising

- Examiner of PhD students' theses
  - Dr. Dongge Han (role: sole PhD viva external examiner - University of Oxford, February 2022)
  - Dr. Constantinos Varsos (role: 7-person PhD examination committee member – University of Crete, February 2022)
  - Dr. Douae Ahmadoun (role: PhD thesis reviewer and 5-person PhD jury member – Université de Paris, January 2022)

- Active graduate students supervised

  - Ph.D. and M.Sc. students completed (supervisor)
    - Antonios Vogiatzis (M.Sc.)

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Chrysomallis Iason (Ph.D.)
    - Koutsmanis Michail (Ph.D.)
    - Tripolitakis Evangelos (Ph.D.)
    - Troullinos Dimitrios (Ph.D.) [School of PEM-TUC, co-supervised with M. Papageorgiou]
    - Flokos Theodoros (M.Sc.)
    - Kydonakis Ares (M.Sc.)
    - Orfanoudakis Stavros (M.Sc.)

- ▪ Streviniotis Errikos (M.Sc.)
- ▪ Trigkas Nikolaos (M.Sc.)
- ▪ Ziogas Ioannis – Panagiotis (M.Sc.)

- o Ph.D. and M.Sc. Degrees in progress (committee member)
  - ▪ Tzavaras Emilios (Ph.D.)
  - ▪ Nikolidakis Panagiotis (Ph.D.) [School of Architecture-TUC]
  - ▪ Petrakis Georgios (Ph.D.) [School of MRED-TUC]
  - ▪ Orfanoudakis Emmanouel (M.Sc.)
  - ▪ Papadopoulos Argyris (M.Sc.)
  - ▪ Pateraki Eleni (M.Sc.)

- Undergraduate students supervised

  - o Diploma theses completed (supervisor)
    - ▪ Charalampidis Georgios
    - ▪ Chrysomallis Iason
    - ▪ Iatrakis Georgios
    - ▪ Karalakou Athanasia
    - ▪ Kontos Stefanos
    - ▪ Lymperakis Vasilios
    - ▪ Makatsoris Konstantinos
    - ▪ Ntaountakis Stavros
    - ▪ Pagkalos Emmanuel

  - o Diploma theses completed (committee member)
    - ▪ Apostolakis Ioannis
    - ▪ Chaviara Antonia – Chrisovalanto
    - ▪ Papadopoulos Argiris
    - ▪ Politis Alexandros – Myron
    - ▪ Poulakis Konstantinos
    - ▪ Psychas Christoforos
    - ▪ Ziskas Christos

  - o Diploma theses supervised (in progress, active)
    - ▪ Asproudi Antigoni
    - ▪ Chantampakis Nikolaos
    - ▪ Geronymakis Pavlos
    - ▪ Giankoulidis Pantelis
    - ▪ Kasellas Athanasios
    - ▪ Koresis Gerasimos
    - ▪ Koulopoulos Ioannis
    - ▪ Marinou Ioanna
    - ▪ Mastorakis Antonios
    - ▪ Pantelis Konstantinos
    - ▪ Pronios Filippos
    - ▪ Seferli Iliodora
    - ▪ Skouroliakos Ioannis

  - o Diploma theses in progress (committee member)
    - ▪ Bollas Alexandros

- Chantampakis Nikolaos
- Chatzinikolaou Michail
- Cheiloudakis Spyridon
- Christodoulakis Georgios – Alexandros
- Christodoulidis Kyriakos
- Fokas Michail
- Gakis Konstantinos – Panagiotis
- Manesiotis Athanasios
- Markakis Eleftherios
- Misokalos Ioannis
- Mylonakis Aggelos
- Nikolopoulos Nikolaos
- Papadopoulos Vasilios
- Pavlaki Ismini
- Politsis Konstantinos
- Poulopoulos Dimitrios
- Samoutis Thomas
- Soursos Petros
- Syntychakis Georgios
- Theodorakis Charalampos
- Tsirtsis Spyridon

Technical University of Crete
School of Electrical & Computer Engineering
Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Antonios Deligiannakis
Rank: Professor
Years in rank: 2
Full-time or part-time: Full-time
Lab affiliation: Distributed Multimedia Information Systems and Applications (MUSIC)

A – Teaching

- Undergraduate courses taught
    - COMP 303: Databases (mandatory)
    - COMP 511: Data Management and Processing in Sensor Networks

- Graduate courses taught
    - COMP 606: Data Management and Processing in Sensor Networks
    - COMP 613: Special Issues in Database Systems

- Labs taught

- Curriculum & course development
    - New courses / labs developed

    - Lecture notes / slides developed

    - Authored textbooks

B – Publications

- Publications in refereed journals

    - Submitted: those published/appeared (see below)
        - Nikos Giatrakos, Antonios Deligiannakis, Konstantina Bereta, Marios Vodas, Dimitris Zissis, Elias Alevizos, Charilaos Akasiadis, Alexander Artikis: Processing Big Data in Motion: Core Components and System Architectures with Applications to the Maritime Domain. Technologies and Applications for Big Data Value 2022
    - Accepted:
        - Nikos Giatrakos, Antonios Deligiannakis, Konstantina Bereta, Marios Vodas, Dimitris Zissis, Elias Alevizos, Charilaos Akasiadis, Alexander Artikis: Processing Big Data in Motion: Core

Components and System Architectures with Applications to the Maritime Domain. Technologies and Applications for Big Data Value 2022

- o Published:
  - ▪ Nikos Giatrakos, Antonios Deligiannakis, Konstantina Bereta, Marios Vodas, Dimitris Zissis, Elias Alevizos, Charilaos Akasiadis, Alexander Artikis: Processing Big Data in Motion: Core Components and System Architectures with Applications to the Maritime Domain. Technologies and Applications for Big Data Value 2022: 497-518

- Publications in refereed conferences
  - o Submitted: those published/appeared (see below)
    - ▪ George Stamatakis, Antonis Kontaxakis, Alkis Simitsis, Nikos Giatrakos, Antonios Deligiannakis: SheerMP: Optimized Streaming Analytics-as-a-Service over Multi-site and Multi-platform Settings, EDBT 2022
    - ▪ Vasilis Samoladas, Aris Konidaris, Antonios Deligiannakis: Extreme-Scale Online Machine Learning On Stream Processing Platforms, ACM SIGMOD 2022

  - o Accepted:
    - ▪ George Stamatakis, Antonis Kontaxakis, Alkis Simitsis, Nikos Giatrakos, Antonios Deligiannakis: SheerMP: Optimized Streaming Analytics-as-a-Service over Multi-site and Multi-platform Settings, EDBT 2022
    - ▪ Marios Vodas, Konstantina Bereta, Dimitris Kladis, Dimitris Zissis, Elias Alevizos, Emmanouil Ntoulias, Alexander Artikis, Antonios Deligiannakis, Antonios Kontaxakis, Nikos Giatrakos, David Arnu, Edwin Yaqub, Fabian Temme, Mate Torok, Ralf Klinkenberg: Online Distributed Maritime Event Detection & Forecasting over Big Vessel Tracking Data. IEEE BigData 2021

  - o Published:
    - ▪ Nikos Giatrakos, Eleni Kougioumtzi, Antonios Kontaxakis, Antonios Deligiannakis, Yannis Kotidis: EasyFlinkCEP: Big Event Data Analytics for Everyone. CIKM 2021: 3029-3033
    - ▪ George Stamatakis, Antonis Kontaxakis, Alkis Simitsis, Nikos Giatrakos, Antonios Deligiannakis: SheerMP: Optimized Streaming Analytics-as-a-Service over Multi-site and Multi-platform Settings, EDBT 2022
    - ▪ Marios Vodas, Konstantina Bereta, Dimitris Kladis, Dimitris Zissis, Elias Alevizos, Emmanouil Ntoulias, Alexander Artikis, Antonios Deligiannakis, Antonios Kontaxakis, Nikos Giatrakos, David Arnu, Edwin Yaqub, Fabian Temme, Mate Torok, Ralf Klinkenberg: Online Distributed Maritime Event Detection & Forecasting over Big Vessel Tracking Data. IEEE BigData 2021

- Books and edited book chapters
- Patents

- o *GRANTED*
- 1.

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - o INFORE (ICT-12-2018-2020 Big Data Call. Result: Granted - Ranked 1st)

- Project proposals submitted:
  - o EXSIGHT (HORIZON-CL4-2022-DATA-01)
  - o acronAI (HORIZON-CL4-2021-HUMAN-01)
  - o CREXDATA (HORIZON-CL4-2022-DATA-01-01)
  - o EVENFLOW (HORIZON-CL4-2021-HUMAN-01-01)
  - o STELAR (HORIZON-CL4-2021-DATA-01-03)
  - o ORIGINS (HORIZON-CL4-2022-DATA-01)

E – Professional service

- Associate Editor duties

- Society Technical Committee duties

- Conference Technical Program Committee service
  - o SIGMOD – ACM SIGMOD / PODS Conference on Management of Data
  - o VLDB – Very Large Data Bases
  - o ICDE – IEEE International Conference on Data Engineering
  - o EDBT – International Conference on Extending Database Technology

- Conference Organization (specify role):

- Reviewing activities
  - o VLDB Journal
  - o IEEE Transactions on Knowledge and Data Engineering (TKDE)
  - o Big Data Research (ELSEVIER)
  - o ACM Transactions on Database Systems (ACM TODS)

F – Service to the School and the University

- School responsibilities
  - o …

- University responsibilities
  - o …

G – Advising

- Active graduate students supervised
    - Ph.D. and M.Sc. students completed (supervisor)

    - Ph.D. and M.Sc. theses in progress (supervisor)
        - Flouris Ioannis (Ph.D.)
        - Bitsakis Theodoros (M.Sc)

    - Ph.D. and M.Sc. Degrees completed (committee member)

    - Ph.D. and M.Sc. Degrees in progress (committee member)
        - Mavromihelaki Evangelia (Ph.D.)
        - Polychronakis Andreas (Ph.D.)
        - Andrianakis Emmanuel (M.Sc.)
        - Apostolakis Georgios (M.Sc.)
        - Kalokyri Varvara (M.Sc.)
        - Kritikos Ioannis (M.Sc.)
        - Nydriotis Apostolos (M.Sc.)
        - Thermolia Chryso (M.Sc.)
        - Tsakos Konstantinos (M.Sc.)

- Undergraduate students supervised

    - Diploma theses completed (supervisor)
        - Katara Sotiria-Maria
        - Manara Christina
        - Vittis Vassilios

    - Diploma theses completed (committee member)
        - Apostolakis Ioannis
        - Christodoulopoulos Dimos
        - Kastrinakis Dimitrios
        - Neochoritis Athanasios
        - Patsoglou Panagiotis
        - Psychas Christoforos
        - Samonaki Maria
        - Seisaki Eftichia
        - Skevakis Vasilios

    - Diploma theses supervised (in progress, active)
        - Anastasiou Michail
        - Fragkakis Panteleimon
        - Markodimitrakis Ioannis
        - Meliopoulos Dimitrios

- Papageorgiou Dimitrios
- Tzimos Nikolaos
- Vasilaki Anastasia

- Diploma theses in progress (committee member)
    - Danalis Gerasimos – Dimitrios
    - Fleggas Georgios
    - Gerontidis Georgios
    - Kavalaris Christos
    - Lagogiannis Nikolaos
    - Makris Ioannis
    - Mavrogiorgis Dimitrios
    - Misokalos Ioannis
    - Mitrolaris Stavros
    - Mouzakitis Nikolaos
    - Mparakos Panagiotis
    - Nikolaidis Dimitrios
    - Papadopoulos Ioannis
    - Poulopoulos Dimitrios
    - Revythis Konstantinos
    - Rigas Apostolos – Nikolaos
    - Samoutis Thomas
    - Sapounas Georgios
    - Tsirtsis Spyridon
    - Tzourmpakis Georgios

Technical University of Crete

School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Minos Garofalakis
Rank: Professor
Years in rank: 13
Full-time or part-time: Part-time (full-time Director, Information Management Systems Institute (IMSI), ATHENA Research and Innovation Center)
Lab affiliation: SoftNet – Software Technology and Network Applications Laboratory (Director)

A – Teaching

- Undergraduate courses taught
    - COMP 401: Algorithms and Complexity (mandatory)
    - COMP 414: Advanced Topics in Database Systems

- Graduate courses taught

B – Publications

- Publications in refereed journals

- Publications in refereed conferences

    - Submitted: those published/appeared (see below)

        - Vassilis Digalakis Jr., George N. Karystinos, and Minos Garofalakis. "Improved Pan-Private Stream Density Estimation", arXiv:2111.08784 [cs.CR], November 2021.

- Books and edited book chapters

- Patents

C – Awards & Distinctions

- **Invited Keynote Speaker:** "*Complex-Event Mining over Centralized and Distributed Data Streams*", 4th International Conference on Process Mining (ICPM'2022), Bolzano, Italy, October 2022

- **Invited Tutorial Speaker***: "*Small Synopses for Big Streaming Data: Fast, Accurate, Private(?)*"*, 1st DEDS School on Legal and Ethical Aspects of Data, Athens, Greece, April 2022
- **Invited Speaker:** *"Differential Privacy and Synthetic Data",* EAN-EBRAINS Joint Workshop: The Future of Medical Data Sharing in Clinical Neurosciences, Virtual Event, December 2021.

D – Funded Projects

- **PI** for *"DT4H - DataTools4Heart: A European Health Data Toolbox for Enhancing Cardiology Data Interoperability, Reusability, and Privacy",* HORIZON-HLTH-2021, 2022-2026.

E – Professional service

- Associate Editor duties

- Society Technical Committee duties

- Conference Technical Program Committee service

- Conference Organization (specify role):

- Reviewing activities

F – Service to the School and the University

- School – level responsibilities
  - Software Technology and Network Applications Laboratory, Director

- University responsibilities

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students completed (supervisor)

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - George Pikramenos (at U of Athens)
    - Eros Fabrici (DEDS PhD student, at U of Athens)
    - Antheas Kapenekakis (DEDS PhD student, at U Aalborg, co-supervised with Katja Hose)

  - Ph.D. and M.Sc. Degrees completed (committee member)
    - Georgogiannis Alexandros (Ph.D.)

  - Ph.D. and M.Sc. Degrees in progress (committee member)
    - Flouris Ioannis (Ph.D.)

- Liampa Irene (Ph.D.)
- Bitsakis Theodoros (M.Sc.)
- Kalaitzis Konstantinos (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (supervisor)

  - Diploma theses completed (committee member)
    - Katara Sotiria-Maria
    - Manara Christina
    - Vittis Vassilios

  - Diploma theses supervised (in progress, active)
    - Mavrogiorgis Dimitrios
    - Misokalos Ioannis
    - Samoutis Thomas
    - Tsirtsis Spyridon

  - Diploma theses in progress (committee member)
    - Anastasiou Michail
    - Kastellakis Antonios
    - Meliopoulos Dimitrios
    - Mparakos Panagiotis
    - Papadopoulos Ioannis
    - Tzimos Nikolaos
    - Tzourmpakis Georgios
    - Tsaousidis Iraklis
    - Vasilaki Anastasia
    - Revythis Konstantinos

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Michail G. Lagoudakis
Rank: Professor
Years in rank: 1
Full-time or part-time: Full-time
Lab affiliation: Intelligent Systems Laboratory

A – Teaching

- Undergraduate courses taught
    - COMP 402: Theory of Computation (mandatory, spring semester)
    - COMP 412: Autonomous Agents

- Postgraduate courses taught
    - BME 16: Artificial Intelligence and Medical Decision Support Systems (Master's program in Biomedical Engineering, 4th trimester)

B – Publications

- Publications in refereed journals

    - Published:
        - Angelos Antonopoulos, **Michail G. Lagoudakis**, Panagiotis Partsinevelos, "A ROS Multi-Tier UAV Localization Module Based on GNSS, Inertial and Visual-Depth Data," Drones, 6(6) 135, 2022.

C – Awards & Distinctions

D – Funded Projects

E – Professional service

F – Service to the School and the University

- University responsibilities
    - Vice Rector of Administrative, Academic, and Student Affairs
    - First Deputy Rector of the Technical University of Crete
    - Member, TUC Senate and Rectorate Council
    - Member, General Assembly of Property Management Corporation, TUC

- Chair, Quality Assurance Unit, TUC
- Chair, Organization and Internal Bylaws Compilation Committee, TUC
- Chair, Student Welfare Committee, TUC
- Chair, Ethics Committee, TUC
- Chair, Graduate Studies Committee, TUC
- Chair, Library Committee, TUC
- In Charge Of, Administration, Academics, IT, Library Directorates, TUC
- In Charge Of, Internet, International, and Public Promotion, TUC
- Co-Administrator of all Information Systems, TUC

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students completed (supervisor)

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Orfanoudakis Emmanuel (Ph.D.)
    - Chatzilaris Eleftherios (M.Sc.)
    - Sfakianakis Vasilios (M.Sc.)

  - Ph.D. and M.Sc. Degrees completed (committee member)
    - Georgogiannis Alexandros
    - Konidaris Vissarion-Berthold
    - Tzavaras Emilios
    - Vogiatzis Antonios

  - Ph.D. and M.Sc. Degrees in progress (committee member)
    - Chrysomallis Iason (Ph.D.)
    - Flouris Ioannis (Ph.D.)
    - Giannelos Evangelos (Ph.D.)
    - Klasinas Ioannis (Ph.D.)
    - Koutsmanis Michail (Ph.D.)
    - Mainas Nikolaos (Ph.D.)
    - Malakonakis Pavlos (Ph.D.)
    - Malisovas Athanasios (Ph.D.)
    - Mavromichelaki Evaggelia (Ph.D.)
    - Andrianakis Emmanuel (M.Sc.)
    - Apostolakis Georgios (M.Sc.)
    - Flokos Theodoros (M.Sc.)
    - Karatarakis Evangelos (M.Sc.)
    - Kydonakis Ares (M.Sc.)
    - Ntousakis Grigorios (M.Sc.)
    - Orfanoudakis Stavros (M.Sc.)
    - Plataniotis Stergios (M.Sc.)
    - Streviniotis Errikos (M.Sc.)

- Vezyridis Savvas (M.Sc.)
- Ziogas Ioannis – Panagiotis (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (supervisor)
    - Antonopoulos Aggelos
    - Chaitidis Savvas
    - Chaviara Antonia – Chrysovalanto
    - Christodoulopoulos Dimos
    - Galanis Michail
    - Mastorakis Nikolaos
    - Myrkos Dimosthenis
    - Papadopoulos Argyris
    - Poulakis Konstantinos
    - Psychas Christophoros
    - Sotiropoulou Ileanna
    - Sfikas Nikolaos
    - Vidias Ioannis
    - Vlachos Alexios
    - Ziskas Christos

  - Diploma theses completed (committee member)
    - Apostolakis Dimitrios
    - Felekis Panagiotis
    - Gallou Olympia
    - Gialitakis Emmanuel
    - Karalakou Athanasia
    - Kilikis Michail
    - Ntaountakis Stavros
    - Pagkalos Emmanuel
    - Papageorgiou Vasilios
    - Peppas Spyridon
    - Perraki Maria
    - Samionaki Maria
    - Sisaki Eftichia
    - Stergiou Ioanna – Maria
    - Vailakis Apostolos – Nikolaos
  - Diploma theses supervised (in progress, active)
    - Apostolopoulos Athanasios – Iakovos
    - Bollas Alexandros
    - Chatzipetros Alexandros
    - Chazlis Georgios
    - Cheiloudakis Spyridon
    - Christodoulakis Georgios – Alexandros

- Georgiadis Ioannis
- Kampilafkas Anastasios
- Karamailis Panteleimon
- Katsigarakis Ioannis
- Kontoulis Paraskevas – Theofanis
- Kyriazakis Cleanthes
- Manesiotis Athanasios
- Mantala Christina
- Markakis Eleftherios
- Mparch Mannuel – Raphael
- Mylonakis Aggelos
- Nikolopoulos Nikolaos
- Pavlaki Ismini
- Politsis Konstantinos
- Poulopoulos Dimitrios
- Siolis Panagiotis
- Soursos Petros
- Theodorakis Charalampos
- Syntychakis Georgios
- Valtatzis Alexandros – Konstantinos
- Veloudakis Konstantinos – Stylianos
- Vlachos Konstantinos

- Diploma theses in progress (committee member)
  - Asproudi Antigoni
  - Chalimas Theodoros
  - Chamarousios Dimitrios
  - Christodoulidis Kyriakos
  - Filopoulos Konstantinos
  - Galanomati Sofia
  - Georgakilas Christos
  - Gerontidis Georgios
  - Geronymakis Pavlos
  - Giovanoglou Vasilios
  - Grigoraki Styliani
  - Iliadis Panagiotis
  - Kasselas Athanasios
  - Koresis Gerasimos
  - Koulopoulos Ioannis
  - Loukopoulos Chatzigiosis – Georgios
  - Lytis Dimitrios
  - Marinou Ioanna
  - Mpampaniotis Fotios
  - Nikandros Stavros – Konstantinos
  - Nikolakakis Stylianos

- Panagiotopoulou Chrysa
- Papadopoulos Georgios
- Papageorgiou Dimitrios
- Paterakis Isidoros
- Perrakis Emmanuel
- Petrakos Emmanuel
- Poupakis Alexandros
- Pronios Filippos
- Prountzos Athanasios
- Rigas Apostolos – Nikolaos
- Seferli Iliodora
- Sifakis Zacharias – Iosif
- Skouroliakos Ioannis
- Stamatelos Ioannis
- Stefanakis Emmanuel
- Trimas Christos
- Vlassopoulos Evangelos – Stylianos
- Vogiatzis Konstantinos
- Zacharopoulos Apostolos

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Katerina Mania
Rank: Professor
Years in rank: 1 year
Full-time or part-time: Full-time
Lab affiliation: Distributed Multimedia Information Systems and Applications
(MUSIC)

A – Teaching

- Undergraduate courses taught

    o COMP 101 - Introduction to Computers and Computer Science
    o COMP 416 - Computer Graphics

- Postgraduate courses taught

    o COMP 620 – Special Topics on Users Interface Design

- Labs taught

- Curriculum & course development
    o Updated laboratory exercises and material for COMP 101, COMP 416
    o Lecture notes, slides, projects developed for the new postgraduate
      course COMP 620 (taught for the first time in School)

B – Publications

- Publications in refereed conferences

- Accepted
    o Daskalogrigorakis, G., McNamara(2022), A., Marinakis, A., Antoniadis,
      A., Mania, K. Glance-Box: Multi-LOD Glanceable Interfaces for Machine
      Shop Guidance in Augmented Reality using Blink and Hand Interaction.
      In ISMAR Workshop on Enhancing User Comfort, Health and Safety in
      VR and AR. IEEE co-sponsored.
    o Kritikos, Y., Giariskanis, F., Protopapadaki, E., Papanastasiou, A.,
      Papadopoulou, E., & Mania, K. (2022). Audio Augmented Reality for
      Cultural Heritage Outdoors. In Eurographics Workshop on Graphics and
      Cultural Heritage. The Eurographics Association.

- o Kritikos, Y., Mania, K. (2022). Interactive Historical Documentary in Virtual Reality. In International Conference on Interactive Media, Smart Systems and Emerging Technologies (IMET '22), IEEE co-sponsored.
- o Sarri, F., Ragia, L., Panagiotopoulou, A., Mania, K. (2022). Location-Aware Augmented-Reality for Predicting Sea Level Rise in Situ. International Conference on Interactive Media, Smart Systems and Emerging Technologies (IMET '22), IEEE co-sponsored.

- ● Published
  - o Fotis Giariskanis, Yannis Kritikos, Eftychia Protopapadaki, Anthi Papanas- tasiou, Eleni Papadopoulou, and Katerina Mania. 2022. The Augmented Museum: A Multimodal, Game-Based, Augmented Reality Narrative for Cultural Heritage. In ACM International Conference on Interactive Media Experiences (IMX '22), June 22–24, 2022, Aveiro, JB, Portugal. ACM, New York, NY, USA, 5 pages.
  - o Tsekeri E., Lilli A., Katsiokalis M., Gobakis K., Mania A., Kolokotsa D., "On the integration of nature-based solutions with digital innovation for health and wellbeing in cities." 2022 7th International Conference on Smart and Sustainable Technologies (SpliTech), 2022.

C – Awards & Distinctions

D – Funded Projects

- ● Current projects:

  - o **ANCIENT KYDONIA HISTORY TOUR:** Multimedia tour of ancient Kydonia through playful musical elements, using augmented reality technologies, call EYDE-ETAK 'Research-Create-Innovate, GSRT, 2020-2023, PI Prof. Katerina Mania
  - o **3D4DELPHI:** Modelling Archaeological Uncertainty by Combining Modern 3D Imaging for Scientific Documentation of Cultural Heritage: Application to the Archaeological Site of Delphi, Greececall EYDE-ETAK 'Research-Create-Innovate GSRT, 2020-2023, PI Prof. Katerina Mania
  - o **VARCITIES:** Visionary Nature-based Actions for health, well-being & resilience in cities, HORIZON2020, PI and co-ordinator Prof. Denia Kolokotsa, research collaborator
  - o **ENCITO:** Effects of climate change in the old city of Chania, Latsis Foundation, 2020-2022, PI Dr Lemonia Ragia, Research collaborator

- ● Project proposals submitted:

  - o **SUN:** Social and Human Centred XR. Submitted to HORIZON-CL4-2022-HUMAN-01-14, 2022-2025, PI Prof. Katerina Mania
  - o **PSYCHE:** Preserving the Context of Cultural Heritage Cretation, Submitted to HORIZON, 2022-2025, PI Prof. Katerina Mania

E – Professional service

- Associate Editor duties

    - Associate Editor, ACM Transactions on Applied Perception, ACM Press (since September 2007)
    - Associate Editor, Presence Tele-operators and Virtual Environments, MIT Press (since June 2006)

- Conference Technical Program Committee service, membership

    - IEEE Virtual Reality 2021, 2022 full paper conference track international program committee
    - GALA 2021, 2022 (Games and Learning Alliance Conference)
    - IEEE AIVR 2022 (IEEE International Conference on Artificial Intelligence and Virtual Reality)
    - FDG 2020, Foundations of Digital Games 2020
    - IMET 2022, Intl. conference on Interactive Media, Smart Systems and Emerging Technologies
    - GEC 2022, Summit on Gender Equality in Computing

- Reviewing activities

    - Various international conferences and journals

F – Service to the School and the University

- School responsibilities
    - Responsible for public relations for the School of Electrical and Computer Engineering
    - Studies' advisor for 1st year studies

- University responsibilities
    - Member of the university-wide ERASMUS committee
    - Member of ELKE (University-wide Research Committee)
    - Elected vice-president and then president of faculty union

G – Advising

- Active graduate students supervised
    - Ph.D. and M.Sc. students completed (supervisor)
        - Grigoris Daskalogrigorakis 'Guidance in Office Work Space employing Augmented Reality', MEng

    - Ph.D. and M.Sc. theses in progress (supervisor)
        - Andreas Polychronakis 'Photorealistic 3D Reconstructions in Virtual and Augmented Reality', Ph.D
        - Michalis Roumeliotis 'Development of Head Mounted Virtual/Augmented Reality Employing Touch and Sound for 3D Interaction' MEng

- Fotis Giariskanis 'Multimodal Interaction based on Musical Elements on Mobile and Virtual/Augmented Reality' MEng
- Giannis Kritikos 'Multimodal Cultural Heritage Reconstructions on Augmented Reality' Meng
- Minas Katsiokalis 'Augmented Reality Outdoors for the Interactive Visualization of Climate Change based on Geo-location' MEng

- Ph.D. and M.Sc. Degrees in progress (committee member)
    - Pitsiladis Andreas (M.Sc.)

- Undergraduate students supervised

    - Diploma theses completed (supervisor)
        - Koukis Alexandros
        - Marinopoulos Dimitrios

    - Diploma theses completed (committee member)
        - Chaitidis Savvas
        - Christodoulopoulos Dimos
        - Mastorakis Nikolaos
        - Patsoglou Panagiotis
        - Sfikas Nikolaos
        - Vidias Ioannis

    - Diploma theses supervised (in progress, active)
        - Chalimas Theodoros
        - Christodoulidis Kyriakos
        - Danalis Gerasimos – Dimitrios
        - Gerontidis Georgios
        - Kavallaris Christos
        - Mouzakitis Nikolaos
        - Mpampaniotis Fotios
        - Nikolaidis Dimitrios
        - Rigas Apostolos – Nikolaos
        - Stefanakis Emmanuel

    - Diploma theses in progress (committee member)
        - Apostolopoulos Athanasios – Iakovos
        - Barch Manuel – Raphael
        - Georgiadis Ioannis
        - Katsigarakis Ioannis
        - Kontoulis Parasevas – Theophanes
        - Marinou Ioanna
        - Markodimitrakis Ioannis

- Nikoloulias Dimitrios – Marios
- Papageorgiou Dimitrios
- Politsis Marios
- Politsis Konstantinos

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Euripides G.M. Petrakis
Rank: Professor
Years in rank: 8
Full-time or part-time: Full-time
Lab affiliation: Intelligent Systems Laboratory

A – Teaching

- Undergraduate courses taught
  - COMP 201 : Data Structures and File Structures (mandatory)
  - COMP 513 : Services in the Cloud and the Fog

- Graduate courses taught
  - COMP 602 : Information Data Management

- Labs taught
  - COMP 201 : Data Structures and File Structures (mandatory)
  - COMP 513 : Services in the Cloud and the Fog

- Curriculum & course development
  - New courses / labs developed

  - Lecture notes / slides developed

  - Authored textbooks

B – Publications

- Publications in refereed journals

  - Submitted: those published/appeared (see below)
    - Vasileios Skevakis1, Panagiotis Iliadis1 and Euripides G.M. Petrakis1, "*ModSoft-HP: Fuzzy Microservices Placement in Kubernetes*", Journal of Systems and Software, August 2022.

- o Accepted:
    - ▪ Dimitrios Kastrinakis, Euripides G.M. Petrakis, "Video2Flink: Real-time Video Partitioning in Apache Flink and the Cloud", Machine Vision and Applications, November 2022.
    - ▪ Aimilios Tzavaras, Nikolaos Mainas, Euripides G.M. Petrakis, "*OpenAPI Framework for the Web of Things*", Internet of Things, October 2022.
    - ▪ Nikolaos Mainas, Fotios Bouraimis, Aikaterini Karavisileiou, Euripides G.M. Petrakis, "*Annotated OpenAPI Descriptions and Ontology for REST Services*", International Journal on Artificial Intelligence Tools (IJAIT), October 2022.

- o Published:
    - o Apostolos Lazidis, Konstantinos Tsakos, Euripides G.M. Petrakis, "*Publish-Subscribe Approaches for the IoT and the Cloud: Functional and Performance Evaluation of Open-Source Systems*", Internet of Things, Vol. 19, August 2022.

- ● Publications in refereed conferences
    - o Submitted: those published/appeared (see below)

    - o Accepted:
        - o Anastasios Pateritsas and Euripides G.M. Petrakis, "iBot: Secure and Trusted Access to IoT Data with Blockchain", 37th International Conference on Advanced Information Networking and Applications (AINA 2023), Juiz de Fora, Brazil, March 29-31, 2023.
        - o Nikolaos Lagogiannis, Nikolaos Mainas, Chrisa Tsinaraki, and Euripides G.M. Petrakis, "OASL: SPARQL Query Language for OpenAPI Ontologies", 37th International Conference on Advanced Information Networking and Applications (AINA 2023), Juiz de Fora, Brazil, March 29-31, 2023.
        - o Vasileios Papadopoulos, Aimilios Tzavaras and Euripides G.M. Petrakis, "MoON: Flow-Based Programming with OpenAPI in the web of Things", 37th International Conference on Advanced Information Networking and Applications (AINA 2023), Juiz de Fora, Brazil, March 29-31, 2023.
        - o Isidoros Paterakis and Euripides G.M. Petrakis, "Nexus: Proxy Service for theWeb of Things", 37th International Conference on Advanced Information Networking and Applications (AINA 2023), Juiz de Fora, Brazil, March 29-31, 2023.

    - o Published:
        - ▪ Dimitrios Kastrinakis and Euripides G.M. Petrakis, "*V2F: Real Time Video Segmentation with Apache Flink*", 17th International Symposium on Visual Computing, San Diego, California, pp. 153-164, October 3-5, 2022.
        - ▪ Aimilios Tzavaras, Nikolaos Mainas and Euripides G.M. Petrakis, "*Thing Ontologies for the Semantic Web of Things*", 13th IEEE International Conference on Information, Intelligence, Systems and Applications (IEEE IISA 2022), July 18-20, 2021, Corfu, Greece, 2022.

- Apostolos Lazidis, Euripides G.M. Petrakis, Spyridon Chouliaras and Stelios Sotiriadis, "*Open-Source Publish-Subscribe Systems: A Comparative Study*", 36th International Conference on Advanced Information Networking and Applications (AINA 2022), Sydney, Australia, April 13 - 15, 2022.
- Alkiviadis Aznavouridis, Konstantinos Tsakos, and Euripides G.M. Petrakis, "*Micro-Service Placement Policies for Cost Optimization in Kubernetes*", 36th International Conference on Advanced Information Networking and Applications (AINA 2022), Sydney, Australia, April 13 - 15, 2022.
- Fotios Bouraimis, Nikolaos Mainas, Euripides G.M. Petrakis, "*Composition and Polymorphism Support in the OpenAPI Ontology*", 36th International Conference on Advanced Information Networking and Applications (AINA 2022), Sydney, Australia, April 13 - 15, 2022.
- Ioanna-Maria Stergiou, Nikolaos Mainas, Euripides G.M. Petrakis, "*OpenAPI QL: Searching in OpenAPI Service Catalogues*", 36th International Conference on Advanced Information Networking and Applications (AINA 2022), Sydney, Australia, April 13 - 15, 2022.
- Marios Antonakakis, Aimilios Tzavaras, Konstantinos Tsakos, Emmanouil G. Spanakis, Vangelis Sakkalis, Michalis Zervakis, Euripides G.M. Petrakis, "*Real-Time Object Detection using an Ultra-High-Resolution Camera on Embedded Systems*", IEEE International Conference on Imaging Systems and Techniques (IEEE IST 2022), June 21-23, 2022 (virtual).
- Vasileios Moysiadis, Konstantinos Tsakos, Panagiotis Sarigiannidis, Euripides G.M. Petrakis, Achilles D. Boursianis, Sotirios K. Goudos, "*A Cloud Computing Web-based Application for Smart Farming Based on Microservices Architecture*", IEEE International Conference on Circuits and Systems Technologies (IEEE MOCAST 2022), 8 - 10 June 2022, Bremen, Germany, 2022.
- Aimilios Tzavaras, Nikolaos Mainas, Fotios Bouraimis, Euripides G.M. Petrakis, "*OpenAPI Thing Descriptions for the Web of Things*", The 33rd IEEE International Conference on Tools with Artificial Intelligence (IEEE ICTAI), Virtually, November 1-3, 2021.

- Books and edited book chapters

- Patents

C – Awards & Distinctions

- In the 2% of the world for his overall scientific work (Stanford ranking 2021, 2022).
- IEEE Senior Member since 2019.
- Member of the Editorial Board, Internet of Things Journal
- Finalist (nominee) for the best student paper in the MOCAST 2022 Conference for the paper "A Cloud Computing Web-based Application for Smart Farming Based on Microservices Architecture".

D – Funded Projects

Current projects:
- o "BorderUAS: Semi-autonomous border surveillance platform combining next generation unmanned aerial vehicles with ultra-high-resolution multi-sensor surveillance payload" (2020-2023), HORIZON 2020 (H2020-BES-02-2019), Duration 36 months, Project budget €6,997,332, Budget for TUC: €735,625, Role in project: Co-Principal Investigator (Co-PI).
- o "MARS, sMart fArming with dRoneS", (2018-2021), Ministry of Development, Greek Secretariat for Research and Technology, Research and Innovation Initiative, Project Budget €841,100, Budget for TUC €130,000, Role in project: Co-Principal Investigator (Co-PI).

- • Project proposals submitted:

E – Professional service

- • Associate Editor duties
  - o Internet of Things Journal

- • Society Technical Committee duties
  - o Board of Directors, HFRI - Hellenic Foundation for Research and Innovation (HFRI is the equivalent of USA NSF in Greece), (2020 – today)
  - o Associate member in graduate faculty of Wright State University, Ohio, USA, for a seven-year term (2021 – 2028).

- • Conference Technical Program Committee service
  - o Area Chair & Program committee, 33rd International Conference on Tools with Artificial Intelligence ICTAI 2021-2022 (each year)
  - o Track Chair & Session Chair for the IoT and Cyber-Physical Systems Track, International Conference on Advanced Information Networking and Applications AINA, 2020-2023 (each year).
  - o Program Committee (PC) member, International Conference on Advanced Information Networking and Applications (AINA), 2018-2020 (each year).
  - o IoT Track Chair, Intern. Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN), 2018-2022 (each year).
  - o Program Committee (PC) member, International Conference on Ambient Systems, Networks and Technologies (ANT), 2021.
  - o Program Committee (PC) member, Intern. Symposium on Visual Computing (ISVC), 2005–2022 (each year).

- • Conference Organization (specify role):

- • Reviewing activities
  - o Several international Conferences and Journals

F – Service to the School and the University

- School responsibilities
  - Laboratory Director, Intelligent Systems Laboratory, Department of Electronic and Computer Engineering, Technical University of Crete
  - Member of the Board, Telecommunication Research Institute
  - Board of Directors, HFRI - Hellenic Foundation for Research and Innovation
  - Associate member in graduate faculty of Wright State University, Ohio, USA, for a seven-year term (2021 – 2028).

- University responsibilities

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students completed (supervisor)
    - Tzavaras Emilios (M.Sc.)

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Mainas Nikolaos (Ph.D.)
    - Tzavaras Emilios (Ph.D.)
    - Lazidis Apostolos (M.Sc.)
    - Thermolia Chryso (M.Sc.)
    - Tsakos Konstantinos (M.Sc.)

  - Ph.D. and M.Sc. Degrees in progress (committee member)
    - Livanos Georgios (Ph.D.)
    - Moirogiorgou Konstantia (Ph.D.)
    - Karasmanoglou Apostolos (M.Sc.)
    - Kydonakis Ares (M.Sc.)
    - Pitsiladis Andreas (M.Sc.)
    - Portokalakis Petros (M.Sc.)
    - Tsellou Ekaterini (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (supervisor)
    - Apostolakis Ioannis
    - Aznavouridis Alcibiades
    - Kastrinakis Dimitrios
    - Skevakis Vasilios
    - Stergiou Ioanna – Maria
  - Diploma theses completed (committee member)
    - Kilikis Michail
    - Koukis Alexandros
    - Papadopoulos Argyris

- o Diploma theses supervised (in progress, active)
  - Chamarousios Dimitrios
  - Grigoraki Styliani
  - Iliadis Panagiotis
  - Lagogiannis Nikolaos
  - Papadopoulos Vasilios
  - Paterakis Isidoros
  - Pateritsas Anastasios
  - Pitteros Alexandros
  - Prountzos Athanasios
  - Sofroniou Pavlos
  - Zacharopoulos Apostolos
  - Zafeirakopoulos Alexandros – Nikolaos

- o Diploma theses in progress (committee member)
  - Giovanoglou Vasilios
  - Markodimitrakis Ioannis
  - Papanastasiou Anastasios – Panagiots
  - Trimas Christos

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Vasilis Samoladas
Rank: Associate Professor
Years in rank: 4 years
Full-time or part-time: Full-time
Lab affiliation: Software Technology and Network Applications Laboratory

A – Teaching

- Undergraduate courses taught
    - COMP 102: Object-oriented Programming (mandatory)
    - COMP 301: Operating Systems (mandatory)
    - COMP 415: Computational Geometry

- Graduate courses taught
    - COMP 616: Computational Geometry (Offered jointly with COMP 415)

- Labs taught

- Curriculum & course development
    - New courses / labs developed

    - Lecture notes / slides developed

    - Authored textbooks

B – Publications

- Publications in refereed journals

    - Submitted: those published/appeared (see below)

    - Accepted:

    - Published:

- Publications in refereed conferences

    - Submitted: those published/appeared (see below)
        - V. Konidaris, V. Samoladas. Extreme-Scale Online Machine Learning On Stream Processing Platforms. to VLDB 2022

- ▪ Dimitrios Troullinos, Georgios Chalkiadakis, Vasilis Samoladas, Markos Papageorgiou. Max-sum with Quadtrees for Continuous DCOPs with Application to Lane-Free Autonomous Driving. in Proc AAMAS'22
- ▪ D. Troullinos, G. Chalkiadakis, V. Samoladas, M. Papageorgiou.Max-Sum with Quadtrees for Decentralized Coordination in Continuous Domains. in Proc IJCAI 2022

- o Accepted:
    - ▪ Dimitrios Troullinos, Georgios Chalkiadakis, Vasilis Samoladas, Markos Papageorgiou. Max-sum with Quadtrees for Continuous DCOPs with Application to Lane-Free Autonomous Driving. in Proc AAMAS'22
    - ▪ D. Troullinos, G. Chalkiadakis, V. Samoladas, M. Papageorgiou.Max-Sum with Quadtrees for Decentralized Coordination in Continuous Domains. in Proc IJCAI 2022

- Books and edited book chapters

- Patents
    - o *GRANTED*
    - 1.

C – Awards & Distinctions

D – Funded Projects

- Current projects:
    - o EPOPTES: European Patent Office Planning Tool Extensible Simulator. 24,800 euro, 10-2021 to 12-2022

- Project proposals submitted:

E – Professional service

- Associate Editor duties

- Society Technical Committee duties

- Conference Technical Program Committee service
    - o EUSPN 2022

- Conference Organization (specify role):

- Reviewing activities

F – Service to the School and the University

- School responsibilities
  - Dean's council
  - OMEA – Internal Evaluation Committee

- University responsibilities
  - Library committee

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students completed (supervisor)
    - Vissarion Konidaris (M.Sc)

  - Ph.D. and M.Sc. theses in progress (supervisor)

  - Ph.D. and M.Sc. Degrees completed (committee member)
    - Georgogiannis Alexandros (Ph.D.)
    - Daskalogrigorakis Grigorios (M.Sc.)
    - Kolomvakis Christos (M.Sc.)
    - Papagiannakis Ioannis – Marios (M.Sc.)
    - Tzavaras Emilios (M.Sc.)

  - Ph.D. and M.Sc. Degrees in progress (committee member)
    - Koutsmanis Michail (Ph.D.)
    - Mainas Nikolaos (Ph.D.)
    - Rossos Christos (Ph.D.)
    - Tripolitakis Evangelos (Ph.D.)
    - Boras Charalampos (M.Sc.)
    - Chatzigeorgiou Roza (M.Sc.)
    - Chousos Christos (M.Sc.)
    - Fanourakis Nikolaos (M.Sc.)
    - Katsiokalis Minas (M.Sc.)
    - Mpitsakis Theodoros (M.Sc.)
    - Nydriotis Apostolos (M.Sc.)
    - Streviniotis Errikos (M.Sc.)
    - Tsakos Konstantinos (M.Sc.)
    - Ziogas Ioannis – Panagiotis (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (supervisor)
    - Kilikis Michail
    - Piatsoglou Panagiotis

- Seisaki Eftichia

o Diploma theses completed (committee member)
  - Ampatzidis Konstantinos
  - Aznavouridis Alciviades
  - Charalampidis Georgios
  - Chrysomallis Iason
  - Georgis Polykratis
  - Iatrakis Georgios
  - Kargakos Stefanos
  - Katara Sotiria – maria
  - Kontos Stefanos
  - Kotridis Georgios
  - Koukis Alexandros
  - Lymperakis Vasilios
  - Makatsoris Konstantinos
  - Manara Christina
  - Marinopoulos Dimitrios
  - Mastorakis Nikolaos
  - Skevakis Vasilios
  - Stergiou Ioanna – Maria
  - Vidias Ioannis
  - Vittis Vasilios

o Diploma theses supervised (in progress, active)
  - Chatzinikolaou Michail
  - Mparakos Panagiotis
  - Papadopoulos Ioannis
  - Revythis Konstantinos
  - Tzourmpakis Georgios

o Diploma theses in progress (committee member)
  - Anastasiou Michail
  - Andreadakis Antonios
  - Antoniadis Theodoros
  - Chamarousios Dimitrios
  - Chantampakis Nikolaos
  - Giankoulidis Pantelis
  - Grigoraki Styliani
  - Iliadis Panagiotis
  - Konidakis Ioannis
  - Koresis Gerasimos
  - Koulopoulos Ioannis
  - Kyriakou Christos
  - Lagogiannis Nikolaos
  - Limneos Emmanuel

- Mastorakis Antonios
- Mavrogiorgis Dimitrios
- Meliopoulos Dimitrios
- Mpampaniotis Fotios
- Nikolaidis Dimitrios
- Pantelis Konstantinos
- Paterakis Isidoros
- Pateritsas Anastasios
- Prountzos Athanasios
- Rentzelopoulos Athanasios
- Sdoukos Thomas
- Sofroniou Pavlos
- Stefatos Gerasimos
- Takas Panagiotis
- Tzimos Nikolaos
- Tzortzaki Christini
- Vasilaki Anastasia
- Zacharopoulos Apostolos
- Zafeirakopoulos Alexandros – Nikolaos

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Costas Balas
Rank: Professor
Years in rank: 8
Full-time or part-time: Full-time
Lab affiliation: Electronics Laboratory, Director

A – Teaching

- Undergraduate courses taught
    - ACE 204: Electronics I (mandatory)
    - ACE 412: Optoelectronics

- Graduate courses taught
    - ACE 607: Optoelectronics (Offered jointly with ACE 412)
    - FYS 603: Physics, Technology and Sensors Applications in Electronic Imaging

- Labs taught
    - ACE 204: Electronics I (mandatory)
    - ACE 412: Optoelectronics

- Curriculum & course development
    - FYS 603: Physics, Technology and Sensors Applications in Electronic Imaging

    - Lecture notes / slides developed

    - Authored textbooks

B – Publications

- Publications in refereed journals

    - Submitted: those published/appeared (see below)

    - Accepted:

- o Published:
  - Petrakis, S.; Skoulakis, A.; Orphanos, Y.; Grigoriadis, A.; Andrianaki, G.; Louloudakis, D.; Kortsalioudakis, N.; Tsapras, A.; Balas, C.; Zouridis, D.; Pachos, E.; Bakarezos, M.; Dimitriou, V.; Tatarakis, M.; Benis, E.P.; Papadogiannis, N.A. Coherent XUV Multispectral Diffraction Imaging in the Microscale. *Appl. Sci.* 2022, *12*, 10592.
    https://doi.org/10.3390/app122010592
  - Gkrozou F., Rossos C., Tsapras A., Kortsalioudakis N., Tsonis O., Balas C. and Paschopoulos M., Spectral Artificial Vision Endoscopy for Assisting the Differential Diagnosis of Endometrial Polyps, In Vivo, Cur Op Gyn Obs, 4(1): 418-424 (2021)
    DOI: https://doi.org/10.18314/cogo.v4i1.2096

- Publications in refereed conferences

  - o Submitted: those published/appeared (see below)
  - o Accepted:
  - o Published:

- Books and edited book chapters

- Patents
  - o GRANTED
    - HYBRID SPECTRAL IMAGER
      International Patent, No: WO2020025987A1
      Inventor: Konstantinos Balas
    - TRACE MICROANALYSIS MICROSCOPE SYSTEMS AND METHODS
      WO2021099568A1
      Inventor: Konstantinos Balas

C – Awards & Distinctions

D – Funded Projects

- Current projects:

  - o XMMaS-Development of a coherent X-ray multispectral microscopy system (Code: T1EDK-04549 - MIS:5048516), funded by NSRF 2014-2020 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE" (TUC)
  - o i-blueCulture - A novel 3D framework providing insuperable and real-time experience within live streaming (Code: T2EDK-03610- MIS: 5074554), funded by NSRF 2014-2020 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE" (TUC)
- Project proposals submitted:

E – Professional service

- Associate Editor duties

- Society Technical Committee duties

- Conference Technical Program Committee service

- Conference Organization (specify role):

- Reviewing activities

F – Service to the Department and the School

- Departmental responsibilities
  - o Director of the Electronics Lab

- School – level responsibilities
  - o Director Biomedical Engineering MSc Program

G – Advising

- Active graduate students supervised
  - o Ph.D. and M.Sc. students completed (supervisor)

  - o Ph.D. and M.Sc. theses in progress (supervisor)
    - Markellos Dimitrios (Ph.D.)
    - Rossos Christos (Ph.D.)
    - Tsapras Athanasios (Ph.D.)
    - Tsiaousis Christos (Ph.D.)
    - Boras Charalambos (M.Sc.)
    - Chousos Christos (M.Sc.)

  - o Ph.D. and M.Sc. Degrees completed (committee member)

  - o Ph.D. and M.Sc. Degrees in progress (committee member)
    - Bassford Michalis – Dimitris (Ph.D.)
    - Makris Nikolaos (Ph.D.)
    - Nikolaou Aristides (Ph.D.)
    - Gkouvatsos Nikolaos (M.Sc.)
    - Kostopoulos Konstantinos (M.Sc.)
    - Liliopoulos Sotirios (M.Sc.)
    - Roumeliotis Michail (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (supervisor)
    - Gialitakis Emmanuel
    - Kargakos Stefanos
    - Tsiaousis Christos

  - Diploma theses completed (committee member)

  - Diploma theses supervised (in progress, active)
    - Karagiannis – Xanthakis Leonidas
    - Nikoloulias Dimitrios – Marios
    - Stasinou Ioanna – Andromachi
    - Stefatos Gerasimos
    - Tagkas Panagiotis

  - Diploma theses in progress (committee member)
    - Chalimas Theodoros
    - Mouzakitis Nikolaos

Name: Matthias Bucher
Rank: Associate Professor
Years in rank: 8
Full-time or part-time: Full-time
Lab affiliation: Electronics Laboratory

A – Teaching

- Undergraduate courses taught

- Graduate courses taught
    - ECE 604 – Special Themes of CMOS Analog Integrated Circuit Design (Spring 2022)

- Labs taught

B – Publications

- Publications in refereed journals

- Publications in refereed conferences

    - L. Chevas, N. Makris, M. Kayambaki, A. Kostopoulos, A. Stavrinidis, G. Konstantinidis and M. Bucher, "A Contribution to GaN HEMT Modeling and Parameter Extraction Including Temperature Dependence," 2022 IEEE Latin American Electron Devices Conference (LAEDC), Puebla, Mexico, July 4-6, 2022, pp. 1-4
    doi: 10.1109/LAEDC54796.2022.9908184.
    Invited to a Special Issue in IEEE J-EDS.

C – Awards & Distinctions

- Elected Member of the Board of Directors, Micro-& Nano Scientific Society, Athens, Greece http://micro-nano.gr/

D – Funded Projects

- Current projects:
  - *3D Integration Technologies of Radio for Phase Shift in Phase-Array Antenna Systems "3D-ΤΟΠΟΣ" (MIS 5131411).* Funding Agency: Operational Programme "Entrepreneurship, Competitiveness and Innovation 2014-2020", co-financed by Greek National Funds and the European Regional Development Fund (ERDF). Coordinator: IESL-FORTH, Heraklion, Greece. Duration: 7/2021 – 10/2023. https://www.iesl.forth.gr/en/project/3d-topos
  - *INNOVATION EL - Crete: "National Infrastructure of Nanotechnology, Innovative Materials and Micro-Nanoelectronics",* code ΟΠΣ (MIS) 5002772. Funding Agency: Operational Programme "Entrepreneurship, Competitiveness and Innovation 2014-2020" co-financed by Greek National Funds and the European Regional Development Fund (ERDF). Coordinator: IESL-FORTH, Heraklion, Greece. Duration: 4/2018 – 3/2022. https://innovation-el.net/

- Project proposals submitted:

E – Professional service

- Conference Technical Programme Committee service
  - TPC member, 29h Int. Conf. on Mixed Design of Integrated Circuits and Systems (MIXDES 2022)
  - TPC member, 11th Int. Conf. on Modern Circuits and Systems Technologies (MOCAST 2022)
  - TPC member, Int. Conf. Micro-Nanoelectronics, Nanotechnologies and MEMS (Micro-Nano 2022)

- Reviewing activities
  - IEEE Transactions on Electron Devices
  - IEEE Journal of the Electron Devices Society
  - IEEE Electron Device Letters

F – Service to the Department and the School

- Departmental responsibilities
  - Member of the Dean's Board (ECE School).
  - Member of admission committee of undergraduate students.
  - TUC represantant to Europractice Integrated Circuits (IC) Service https://europractice-ic.com/.

G – Advising

- Graduate students supervised
    - Ph.D. and M.Sc. students completed (supervisor)

    - Ph.D. and M.Sc. theses in progress (supervisor)
        - Chevas Loukas (Ph.D.)
        - Makris Nikolaos (Ph.D.)
        - Gouvatsos Nikolaos (M.Sc.)
        - Papoutsani Maria (M.Sc.)
        - Kostopoulos Konstantinos (M.Sc.)

    - Ph.D. and M.Sc. Degrees completed (committee member)
        - Tataridou Angeliki (Ph.D.), Laboratoire IMEP-LAHC, INP-Grenoble

    - Ph.D. and M.Sc. Degrees in progress (committee member)
        - Markellos Dimitrios (Ph.D.)
        - Chousos Christos (M.Sc.)
        - Kaimakamis Tryfon (Ph.D.), Physics Dept., Aristotle University of Thessaloniki.
        - Manoloudis Pavlos (Ph.D.), Physics Dept., Aristotle University of Thessaloniki.

- Undergraduate students supervised
    - Diploma theses completed (supervisor):

    - Diploma students supervised (in progress, active):
        - Dimitrios Piniaras

    - Diploma theses in progress (committee member):
        - Karagiannis – Xanthakis Leonidas
        - Stasinou Ioanna – Andromachi
        - Stefatos Gerasimos

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Apostolos Dollas
Rank: Professor
Years in rank: 21
Full-time or part-time: Full-time
Lab affiliation: Microprocessor and Hardware Laboratory

A – Teaching

- Undergraduate courses taught

    - ACE 101: Logic Design (mandatory)
    - ACE 411: Microprocessor-Based Embedded Systems Design
    - ACE 419: CAD Tool Development for Integrated Circuit Design (cross-listed with graduate course ACE 608)

- Graduate courses taught

    - ACE 608: CAD Tool Development for Integrated Circuit Design

- Labs taught

    - Supervised the labs of ACE 101, in which some of the laboratory exercises were revised for hands-on lab experience with Xilinx Spartan FPGA's.
    - Supervised, examined, and graded the labs of ACE 411(10 weekly laboratory exercises, all fully implemented, all newly developed, all supervised, examined and graded by A. Dollas).
    - Developed a set of six new programming exercises/laboratory exercises on ACE 419/608, supervised and graded these exercises.

- Curriculum & course development

    - Lecture notes / slides developed
        - Worked on the revision of ACE 101 laboratory exercises, which was primarily done by Mr. Markos Kimionis

B – Publications

- Publications in refereed journals

- Publications in refereed conferences (Published)
  - G. Galanos, P. Malakonakis, A. Dollas, An FPGA-Based Data Pre-Processing Architecture to Accelerate De-Novo Genome Assembly, *Proceedings of the 21st IEEE International Conference on BioInformatics and BioEngineering*, October 25-27, Kragujevac, Serbia, IEEE, 2021.
  - T. Zacheilas, K. Moirogiorgou, E. Sotiriades, N. Papandroulakis, M. Zervakis, A. Dollas, An FPGA-Based System for Video Processing to Detect Holes in Aquaculture Nets, *Proceedings of the 21st IEEE International Conference on BioInformatics and BioEngineering*, October 25-27, Kragujevac, Serbia, IEEE, 2021.

- Books and edited Book Chapters

C – Awards & Distinctions

- Steering Committee and Program Committee member, IEEE/ACM 31th International Symposium on Field Programmable Logic (FPL), Dresden, Germany, Aug. 30-Sept. 3, 2021
- Steering Committee and Program Committee member, IEEE/ACM 32nd International Symposium on Field Programmable Logic (FPL), Belfast, N. Ireland, UK, Aug. 29–Sept. 2, 2022
- Member of the Michal Servit best paper awards committee, IEEE/ACM 32nd International Symposium on Field Programmable Logic (FPL), Belfast, N. Ireland, UK, Aug. 29–Sept. 2, 2022

D – Funded Projects

- Current projects:
  - Principal Investigator for TUC, ''Centre for the study and sustainable exploitation of Marine Biological Recourses (CMBR)'', Sub-project (5) ''Technical University of Crete – Upgrading and operation of research infrastructures within the framework of the CMBR Infrastructure ", Funded by the Ministry of Education, Research and Religious Affairs, General Secretariat for Research and Technology (GSRT), 2018 (3-year project), TUC funding: €153.800 (completed in 2022 due to Covid).
- Participation as a Researcher in Project:
  - Senior Research Associate in the EU H2020 projects EPI_SGA1, EuroEXA and RED-SEA (CARV group, ICS/FORTH), Heraklion, Crete, Greece.
  - Participation in the Telecommunication Systems Institute EU-funded projects Sentinel and Enerman.

E – Professional service

- Invited Speaker, "Implementation of Convolutional Neural Networks with FPGA's", presentation in the Erasmus+ Blended Intensive Project TU Liberec, Czechia (3/24/2022).
- Invited Speaker, "Reconfigurable Logic - Based Acceleration of Cellular Automata Models", presentation at the 28th Summer School - Conference "Dynamical Systems and Complexity", Chania, Greece (7/18/22).
- Conference Technical Program Committee service
    - Steering Committee and Program Committee member, IEEE/ACM 31th International Symposium on Field Programmable Logic (FPL), Dresden, Germany, Aug. 30 - Sept. 3, 2021.
    - Steering Committee and Program Committee member, IEEE/ACM 32nd International Symposium on Field Programmable Logic (FPL), Belfast, N. Ireland, UK, Aug. 29–Sept. 2, 2022.
    - Program Committee Member, 2021 International Conference on Field-Programmable Technology (FPT, IEEE Sponsored), Auckland, New Zealand, December 6 – 10, 2021.
    - Program Committee Member, 2022 International Conference on Field-Programmable Technology (FPT, IEEE Sponsored), Hong Kong, SAR, China, December 5 - 9, 2022 (hybrid conference).

    In all the program committees in which I participated (see above), I contributed with reviews of papers (as many as 8 full paper reviews in a single conference), the selection process, organizational issues, and when possible, attendance of the PC meeting. Because my field is rapidly changing, international conferences reflect the state of the art much more than archival journals and I have deliberately given the weight of my reviewing and committee activity on such conferences.

- Reviewing activities
    - Several international journals (including ACM and IEEE Transactions) and conferences, including all in which I participate in the program committee (see above) and journals, as well as project proposals.

F – Service to the School and the University

- School responsibilities
    - Faculty Advisor to the 3rd semester students
    - Member of staff election boards (TUC)
    - Member of faculty election boards at:
        - the Technical University of Crete (multiple positions)
        - the Aristotle University of Thessaloniki (AUTH)
        - the National Technical University of Athens

- o Member of the Student Placement Committee, supervising the examination in the subject of Logic Design for graduates from other Departments who want to enroll at ECE.

- University responsibilities
  - o Member of the Board of Directors of the Telecommunication Systems Institute (TSI)

G – Advising

- Active graduate students supervised
  - o Ph.D. and M.Sc. theses completed (supervisor)

  - o Ph.D. and M.Sc. theses in progress (supervisor)
    - Malakonakis Pavlos (Ph.D.)
    - Brokalakis Andreas (Ph.D.)

  - o Ph.D. and M.Sc. Degrees completed (committee member)
    - Ramakrishnan Prajith (Chalmers, Sweden)

  - o Ph.D. and M.Sc. Degrees in progress (committee member)
    - Charitopoulos Georgios (Ph.D.)
    - Mitropoulos Charalampos – Ioannis (Ph.D.)
    - Vatsolakis Charalampos (Ph.D.)
    - Leontas Vasileios (PH.D., NTUA)
    - Amourgianos-Lorentzos Vasilios (M.Sc.)
    - Arkalakis Ioannis (M.Sc.)
    - Chatzimpyrros Emmanuel (M.Sc.)
    - Fanourakis Nikolaos (M.Sc.)
    - Karasmanoglou Apostolos (M.Sc.)
    - Koutroulakis Efstratios (M.Sc.)
    - Kyriakakis Thomas (M.Sc.)
    - Morianos Ioannis (M.Sc.)
    - Papadopoulos Argyris (M.Sc.)
    - Portokalakis Petros (M.Sc.)
    - Savvakos Charalampos (M.Sc.)
    - Tsakaneli Stavroula (M.Sc.)

- Undergraduate students supervised (towards unified M.Eng. Degree)
  - o M. Eng. Diploma theses completed (supervisor)
    - Ampatzidis Konstantinos
    - Chatzakis Michail-Iason
    - Felekis Panagiotis
    - Galanos Georgios
    - Mpokalidis Anastasios

- Robogiannakis Eleftherios-Emmanouel
- Spyridakis Christos
- Vailakis Apostolos – Nikolaos

- Diploma theses completed (committee member)
  - Antonopoulos Alexandros
  - Antonopoulos Angelos
  - Diktopoulos Christos
  - Georgis Polykratis
  - Kalosynakis Diomfeas
  - Malefioudakis Veniamin
  - Pinitas Kosmas
  - Ropi Mikel
  - Vasilakopoulos Panagiotis
  - Zacharioudakis Nikolaos

- M. Eng. Diploma theses supervised (in progress, active)
  - Charokopos Zisis
  - Chatzakis Michail-Iason
  - Drakoulaki Eleni
  - Fleggas Georgios
  - Galatianos Georgios
  - Kalliontzis Athanasios
  - Kalomoiris Ioannis
  - Kioulos Evangelos
  - Kourkoulos Angelos
  - Loukopoulos – Chatziyiotis Georgios
  - Makris Ioannis
  - Manesis Athanasios
  - Maragkaki Maria
  - Michail Sotirios
  - Mylonakis Emmanuel
  - Ntafi Eirini
  - Ntounetas Dimitrios
  - Palatiana Nikoletta
  - Paleologk Chariton
  - Pantzekos Lambros
  - Perrakis Emmanuel
  - Petrakos Emmanouil
  - Poupakis Alexandros
  - Stavgianoudakis Christos
  - Tzortzaki Christini

- Diploma theses in progress (committee member)
  - Amplianitis Konstantinos

- Androulakis Dimitrios
- Apostolopoulos Theodoros
- Fokas Michail
- Georgakas Ioannis – Iason
- Kafritsa – Georganta Sofia
- Karatsoris Herodotos
- Kargiotakis Georgios
- Konidari Iro
- Kontoulis Paraskevas – Theofanis
- Koutroumpas Georgios
- Lefakis Emmanuel
- Lyronis Stavros
- Oikonomou Asterios
- Palli Argyro
- Pegkos Athanasios
- Sapounas Georgios
- Stamatelos Ioannis
- Theodoraki Emmanuela
- Tsaousidis Iraklis
- Tsapanou Lampriani
- Vasilakis Georgios
- Vogiatzis Konstantinos
- Zacharopoulos Konstantinos

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Konstantinos Gyftakis
Rank: Associate Professor
Years in rank: 1
Full-time or part-time: Full-time from Mar. 17, 2022 (date of appointment) to Aug. 31, 2022
Lab affiliation:

A – Teaching

- Undergraduate courses taught

    o ACE 203: Electric Circuits Analysis (Mandatory)

- Graduate courses taught
    o …

- Labs taught
    o …

- Curriculum & course development
    o New courses / labs developed
        ▪ …

    o Lecture notes / slides developed

        ▪ Development of 100% new lecture notes, slides and tutorials for the ACE 203: Electric Circuits Analysis (Mandatory)

    o Authored textbooks

B – Publications

- Publications in refereed journals

    o Submitted: those published/appeared (see below)
        ▪ H. Ehya, A. Nysveen, B. Akin and K. N. Gyftakis, "Identification and Classification of Rotor Faults in Salient Pole Synchronous Generators", IEEE Transactions on Industrial Electronics.

- - Accepted:
    - K. N. Gyftakis et al, "Demagnetization Condition Monitoring in PM Generators During Transient Conditions", IEEE Transactions on Industry Applications.
    - J. Bonet-Jara, J. Pons-Llinares and K. N. Gyftakis, "Comprehensive Analysis of Principal Slot Harmonics as Reliable Indicators for Early Detection of Inter-turn Faults in Induction Motors of Deep Well Submersible Pumps", IEEE Transactions on Industrial Electronics.

  - Published:

- Publications in refereed conferences

  - Submitted: those published/appeared (see below)

  - Accepted:
    - S. Goh, A. S. Fawzal, S. Rasid, M. Mueller and K. N. Gyftakis, "A New Approach to PM Machine Fault Diagnostics Using Two Magnetically-Coupled Search-Coils", ICEM 2022, Valencia, Spain, 2022.
    - K. N. Gyftakis, C. A. Platero and J. K. Nøland, "Multi-Parametric Monitoring of Medium-Power Generators with Brushless Exciters under Mechanical Faults", ICEM 2022, Valencia, Spain, 2022.
    - G. A. Skarmoutsos, K. N. Gyftakis and M. Mueller, "Losses Analysis of Direct Drive PM Generators Suffering from Demagnetization", ICEM 2022, Valencia, Spain, 2022.
    - T. A. Garcia-Calva, K. N. Gyftakis, G. A. Skarmoutsos, D. Morinigo-Sotelo, and R. de J. Romero-Troncoso, "Advanced Signal Processing Techniques for Demagnetization Detection in PM Generators at Variable Speed", ICEM 2022, Valencia, Spain, 2022.
    - K. N. Gyftakis, S. Rasid and M. Mueller, "False Negative Diagnosis of Demagnetization in Direct Drive Permanent Magnet Generators", ICEM 2022, Valencia, Spain, 2022.
    - K. N. Gyftakis, G. A. Skarmoutsos, I. Barajas-Solano, J. Burchell and M. Mueller, "Critical Aspects of Demagnetization Faults in Direct Drive Permanent Magnet Generators for Renewables", IEEE ECCE 2022.
  - Published:

- Books and edited book chapters

- Patents
  - *GRANTED*

C – Awards & Distinctions

D – Funded Projects

- Current projects:
- Project proposals submitted:

E – Professional service

- Associate Editor duties
    - IEEE Transactions on Energy Conversion
    - IEEE Transactions on Industry Applications
    - MDPI Machines

- Society Technical Committee duties

- Conference Technical Program Committee service

- Conference Organization (specify role):
    - Member of technical subcommittee "Electrical Machines", IEEE Energy Conversion Congress and Exposition, Detroit, Michigan USA, Oct. 2022.
    - Special sessions Chair, International Conference on Electrical Machines 2022, Valencia, Spain, Sep. 2022.
    - Special Session: "Electrical Machines Fault Diagnosis During Transient Operation", Int. Conf. on Electrical Machines, Valencia, Spain, Sep. 2022, (Organizer and Chair).

- Reviewing activities
    - IEEE ECCE 2022
    - ICEM 2022
    - IEEE Transactions on Energy Conversion
    - IEEE Transactions on Industry Applications
    - IEEE Transactions on Industrial Electronics

F – Service to the School and the University

- School responsibilities

    - Erasmus Committee
    - Diploma thesis Committee
    - Master Degree accreditation Committee…

- University / Other responsibilities

    - Member of equipment supply and delivery committee

G – Advising

- Active graduate students supervised

    - Ph.D. and M.Sc. students completed (supervisor)

    - Ph.D. and M.Sc. theses in progress (supervisor)

- Ph.D. and M.Sc. Degrees completed (committee member)

- Ph.D. and M.Sc. Degrees in progress (committee member)
  - Georgios Skarmoutsos, "Detection of Inter-turn Faults in Multi-stage Axial Flux Permanent Magnet Generators", University of Edinburgh, UK
  - Syidy Rasid, "Thermal Analysis of Tidal Generator Operating Underwater with Inter-turn Faults", University of Edinburgh, UK

- Undergraduate students supervised

  - Diploma theses completed (supervisor)

  - Diploma theses completed (committee member)

  - Diploma theses supervised (in progress, active)
    - Karampasoglou Dimitrios
    - Petrakis Konstantinos

  - Diploma theses in progress (committee member)

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Fotios D. Kanellos
Rank: Associate Professor
Years in rank: 4
Full-time or part-time: Full-time
Lab affiliation: Electric Energy Systems

A – Teaching

- Undergraduate courses taught
  - ENE 401: Electric Power Systems II (mandatory)
  - ACE 418: Power Electronics

- Graduate courses taught
  - ECE 602 : Special Topics on Electric Power Systems

- Labs taught
  - ACE 418: Power Electronics

- Curriculum & course development
  - New courses / labs developed

  - Lecture notes / slides developed

  - Authored textbooks

B – Publications

- Publications in refereed journals

  - Published:
    - Michalopoulos, P., Tsekouras, G.J., Kanellos, F.D., Prousalidis, J.M., "Optimal Selection of the Diesel Generators Supplying a Ship Electric Power System", (2022) Applied Sciences (Switzerland), 12 (20), art. no. 10463.
    - Tsekouras, G.J., Kontargyri, V.T., Prousalidis, J.M., Kanellos, F.D., Tsirekis, C.D., Leontaritis, K., Alexandris, J.C., Deligianni, P.M., Kontaxis, P.A., Moronis, A.X. "Alternative Simplified Analytical Models for the Electric Field, in Shoreline Pond Electrode Preliminary Design, in the Case of HVDC Transmission Systems", (2022) Energies, 15 (17), art. no. 6493.

- Kyriakou, D.G., Kanellos, F.D., "Optimal Operation of Microgrids Comprising Large Building Prosumers and Plug-in Electric Vehicles Integrated into Active Distribution Networks, (2022) Energies, 15 (17), art. no. 6182.
- Kanellos, F.D., Kalaitzakis, K., Psarras, I., Katsigiannis, Y., "Efficient and robust power and energy management for large clusters of plug-in electric vehicles and distribution networks, (2022) IET Energy Systems Integration, 4 (3), pp. 393-408.
- Tsekouras, G.J., Deligianni, P.M., Kanellos, F.D., Kontargyri, V.T., Kontaxis, P.A., Manousakis, N.M., Elias, C.N., "Microbial Fuel Cell for Wastewater Treatment as Power Plant in Smart Grids: Utopia or Reality?", (2022) Frontiers in Energy Research, 10, art. no. 843768.
- Karandinou, A.A., Kanellos, F.D., "A method for the Assessment of Multi-Objective Optimal Charging of Plug-in Electric Vehicles at Power System Level", (2022) WSEAS Transactions on Systems and Control, 17, pp. 314-323.

- Publications in refereed conferences

  - Published:
    - Kalaitzakis, I., Dakanalis, M., Kanellos, F.D., "Optimal Frequency Support by Residential Multi-Port Power Converters", (2022) 11th International Conference on Modern Circuits and Systems Technologies, MOCAST 2022.

- Books and edited book chapters

- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - e-Power / Τ2ΕΔΚ-01775, "Smart power converter for the provision of integrated services to electric networks and consumers", Telecommunication Systems Research Institute (T.S.I.), TUC, Role: Research Group Member

E – Professional service

- Associate Editor duties
  - Special Issue entitled "Optimal Design for Renewable Power Systems", Journal Processes (ISSN 2227-9717, IF 3.352)

- Society Technical Committee duties
  - Member of the board of the IEEE Marine Systems Coordinating Committee (MSCC)

- Reviewing activities
  - IEEE Transactions on Automation Science and Engineering
  - IEEE Transactions on Smart Grid
  - IET Electrical Systems in Transportation
  - IEEE Systems Journal
  - IEEE Transactions on Power Systems Energies
  - Electric Power Systems Research
  - IEEE Intelligent Transportation Systems

F – Service to the School and the University

- School – level responsibilities
  - Director of Electric Energy Systems Laboratory
  - Deputy ERASMUS+ academic coordinator

- University responsibilities
  - Member of TUC Technical Council

G – Advising

- Active graduate students supervised

  - Ph.D. and M.Sc. students completed (supervisor)
    - Konstantinidis George (M.Sc.)

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Anastasiadi Nikoleta (M.Sc.)
    - Dakanalis Michail (M.Sc.)
    - Kalaitzakis Iason-Christos (M.Sc.)
    - Karandinou Aikaterini – Agapi (M.Sc)
    - Katsaras Stavros – Raphail (M.Sc.)
    - Kyriakou Dimitra (M.Sc.)
    - Peponakis Emmanuel (M.Sc.)
    - Symiakakis Matheos (M.Sc.)

  - Ph.D. and M.Sc. Degrees completed (committee member)

  - Ph.D. and M.Sc. Degrees in progress (committee member)
    - Malisovas Athanasios (Ph.D.)
    - Chevas Loukas (Ph.D.)
    - Orfanoudakis Stavros (M.Sc.)
    - Peristeropoulos Antonios Fivos (M.Sc.)
    - Roditis Ioannis (M.Sc.)
    - Tsamoudalis Konstantinos (M.Sc.)
    - Vardaxis Ioannis (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (supervisor)
    - Christofilakis Tryfon
    - Kyriakou Dimitra
    - Laskaris Andreas
    - Leontsinis Konstantinos
    - Lintas Stefanos
    - Panagioulakis Stefanos
    - Psarakis Ioannis
    - Sartzetakis Antonios
    - Symiakakis Mathaios
    - Trakidis Petros

  - Diploma theses completed (committee member)
    - Apostolakis Georgios
    - Charalampidis Georgios
    - Gioumatzidis Meletios
    - Kartsonakis Georgios
    - Kontos Stefanos
    - Mavrommatis Stylianos
    - Michalopoulos Ioannis
    - Perraki Maria
    - Triantafyllou Ioannis
    - Tychalas Petros

  - Diploma theses supervised (in progress, active)
    - Arvanitis Chrysostomos
    - Delakis Nikolaos
    - Enotiadis Nikolaos
    - Gagali Evmorfia
    - Komitopoulos Nikolaos
    - Moschakis Ioannis
    - Pitta Eleni
    - Rampias Sarantis
    - Tsarknias Stergios
    - Virirakis Georgios
    - Voulgaris Stylianos

  - Diploma theses in progress (committee member)
    - Exarchakos Georgios
    - Georgakopoulos Alexandros
    - Geroulanos Sokratis
    - Giannopoulos Emmanuel
    - Ioannou Ioannis
    - Kampourakis Nomikos
    - Karampasoglou Dimitrios
    - Kourtidis Dimitrios
    - Litsios Sotirios
    - Mastorakis Antonios
    - Metavitsiadis Ioannis

- Petrakis Emmanuel
- Proestakis Ioannis
- Rousakis Skouloudis
- Saoulis Lampros
- Sdoukos Thomas
- Stefanakis Konstantinos
- Triantafyllou Panagiotis
- Tsaparas Christos
- Tsokas Vasilios

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Eftichios Koutroulis
Rank: Associate Professor
Years in rank: 6
Full-time or part-time: Full-time
Lab affiliation: Circuits, Sensors and Renewable Energy Sources Laboratory

A – Teaching

- Undergraduate courses taught

    o ACE 201: Basic Circuit Theory (mandatory)
    o ACE 414: Electric Measurements and Sensors

- Graduate courses taught

    o ENE 602: Electronic Energy Management Systems

- Curriculum & course development

    o New courses / labs developed

        ▪ ACE 414: Electric Measurements and Sensors: developed new laboratory exercises

    o Lecture notes / slides developed

        ▪ ACE 201: Basic Circuit Theory: updated the existing slides
        ▪ ENE 602: Electronic Energy Management Systems: updated the existing slides

B – Publications

- Publications in refereed journals

    o Published:
        ▪ I. Mandourarakis, V. Gogolou, E. Koutroulis and S. Siskos, "Integrated Maximum Power Point Tracking System for Photovoltaic Energy Harvesting Applications", *IEEE Transactions on Power Electronics*, vol. 37, no. 8, pp. 9865-9875, Aug. 2022.
        ▪ I. Mandourarakis, E. Koutroulis and G. N. Karystinos, "Power Line Communication Method for the Simultaneous Transmission of Power and Digital Data by Cascaded H-Bridge Converters", *IEEE*

Transactions on Power Electronics, vol. 37, no. 10, pp. 12793-12804, Oct. 2022.

- B. Chen, W. Wu, C. Gao, M. Orabi, E. Koutroulis, H. Chung, F. Blaabjerg, "A New Stability Enhancement Method Using KF Estimation for the PWM-SMC-Based Grid-Tied Inverter under Weak Grid Condition", *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 10, no. 6, pp. 6950-6959, Dec. 2022.
- H. Wang, W. Wu, L. Cui, Y. Wu, L. Zhu, E. Koutroulis, F. Blaabjerg, "A New Wave Energy Converter for Marine Data Buoy", *IEEE Transactions on Industrial Electronics*, vol. 70, no. 2, pp. 2076-2084, Feb. 2023.
- S. Luo, W. Wu, E. Koutroulis, H. S.-H. Chung and F. Blaabjerg, "A New Kalman-Filter-Based Harmonic Current Suppression Method for the Virtual Oscillator Controlled Grid-Tied Inverter", *IEEE Journal on Emerging and Selected Topics in Circuits and Systems*, vol. 12, no. 1, pp. 251-259, March 2022.
- H. Wang, W. Wu, J. Zhu, E. Koutroulis, H. S.-H. Chung and F. Blaabjerg, "A Novel Dual Buck and Boost Transformer-Less Single-Phase Grid-Tied Inverter", *IEEE Transactions on Power Electronics*, vol. 37, no. 4, pp. 4211-4224, April 2022.

- Publications in refereed conferences

  - Published:
    - N. Rigogiannis, F. Kotarela, A. Boubaris, A. Kyritsis, C. Christodoulou, N. Papanikolaou, S. Siskos, E. Koutroulis, "Incorporation of SmartPV Technology in Zero Energy Building Concept", *2022 22nd International Symposium on Electrical Apparatus and Technologies (SIELA)*, 2022, pp. 1-4.
    - C. Xiao, W. Wu, N. Gao, E. Koutroulis, H. S.-H. Chung and F. Blaabjerg, "Fault Diagnosis and Reconfiguration for H6 Grid-Tied Inverter Using Kalman Filter", *IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society*, 2021, pp. 1-5.
    - H. Wang, W. Wu, L. Zhu, E. Koutroulis, K. Lu and F. Blaabjerg, "Design and Experiment of a New Wave Power Conversion Device for Self-Powered Sensor Buoy", *IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society*, 2021, pp. 1-5.
    - B. Zhang, W. Wu, N. Gao, E. Koutroulis, H. S.-H. Chung and F. Blaabjerg, "Finite Control Set - Model Predictive Control Based on Deadbeat Control for LCL-Type Grid-connected Inverters", *2021 IEEE 1st International Power Electronics and Application Symposium (PEAS)*, 2021, pp. 1-6.
    - B. Zhang, W. Wu, N. Gao, E. Koutroulis, H. S.-H. Chung and F. Blaabjerg, "Simplified Finite Control Set Model Predictive Control Strategy Based on Historical Data", *2021 IEEE International Conference on Predictive Control of Electrical Drives and Power Electronics (PRECEDE)*, 2021, pp. 975-980.

- B. Zhang, W. Wu, N. Gao, <u>E. Koutroulis</u>, H. S.-H. Chung and F. Blaabjerg, "Finite Control Set Model Predictive Control with Kalman Filter Estimation for LCL-type Grid-Tied Inverter", *2021 IEEE International Conference on Predictive Control of Electrical Drives and Power Electronics (PRECEDE)*, 2021.
- S. Luo, W. Wu, <u>E. Koutroulis</u>, F. Blaabjerg and H. S.-H. Chung, "A New Kalman-Filter-Based Harmonic Current Suppression Method for the Virtual Oscillator Controlled Voltage Source Converters with LCL Filter", *2021 IEEE Energy Conversion Congress and Exposition (ECCE)*, 2021, pp. 316-322.
- G. I. Orfanoudakis, <u>E. Koutroulis</u>, G. Foteinopoulos and W. Wu, "Synchronous Reference Frame current control of Aalborg-type PV inverters", *2021 23rd European Conference on Power Electronics and Applications (EPE'21 ECCE Europe)*, 2021, pp. 1-10.
- G. I. Orfanoudakis, <u>E. Koutroulis</u>, M. A. Yuratich and S. M. Sharkh, "A three-phase transformerless Boost inverter for the reduction of common-mode leakage current in photovoltaic applications", *2021 23rd European Conference on Power Electronics and Applications (EPE'21 ECCE Europe)*, 2021, pp. 1-10.
- N. Delianidis, N. Rigogiannis, N. Papanikolaou, S. Siskos and <u>E. Koutroulis</u>, "Digital Control Implementation for PV Cell-Level Inverters", *2022 11th International Conference on Modern Circuits and Systems Technologies (MOCAST), 2022*, pp. 1-4.
- I. Mandourarakis, Z. Agorastou, <u>E. Koutroulis</u>, G. N. Karystinos and S. Siskos, "On-chip Power Line Communication for Cascaded H-bridge Power Converters", *2022 11th International Conference on Modern Circuits and Systems Technologies (MOCAST)*, 2022, pp. 1-5.
- G. I. Orfanoudakis, G. Foteinopoulos, <u>E. Koutroulis</u> and W. Wu, "Design optimization of Aalborg-type transformerless PV inverters with focus on power quality", *2022 11th International Conference on Modern Circuits and Systems Technologies (MOCAST)*, 2022, pp. 1-5.

- Patents
  - *GRANTED*
  - "Smart integrated circuit for control and energy management of photovoltaic cells", Hellenic Industrial Property Organisation (OBI), no. 1010185: co-inventor.

C – Awards & Distinctions

D – Funded Projects

- Current projects:

  - AID4PV project, "SOLAR-ERA.NET Cofund 2 Additional Joint Call": Project Coordinator for TUC.
  - SmartPV project, "Research - Create - Innovate" call: Project Coordinator.

- o eSOLAR project, "Bilateral and Multilateral Research & Technology Co-operation between Greece and China" GSRT call: Project Coordinator.
- o ePOWER project, "Research - Create - Innovate" call: Project Coordinator.
- o PERPS project, "Research - Create - Innovate" call: Research team member.
- o EFOS project, "Research - Create - Innovate" call: Research team member.

E – Professional service

- Associate Editor duties
  - o Member of the Editorial Board of the "Renewable Energy" journal (publisher: Elsevier).

- Conference Technical Program Committee service
  - o Technical Program Committee member, *11th International Conference on Modern Circuits and Systems Technologies (MOCAST 2022)*.

- Reviewing activities
  - o Performed 18 reviews of journal papers (including revisions) for:
    - IEEE Transactions on Power Electronics
    - Microelectronic Engineering
    - Renewable Energy

F – Service to the School and the University

- School – level responsibilities

  - o Director of the "Circuits, Sensors & Renewable Energy Sources Laboratory"
  - o Dean's Committee member
  - o Member of the Board of Directors of the Telecommunication Systems Research Institute
  - o ECE School coordinator of the undergraduate students practical training program

- University responsibilities

  - o Member of the Technical Council of the Technical University of Crete
  - o Member of the Sustainability Committee of the Technical University of Crete
  - o Technical University of Crete representative in EURECA-PRO LH4 'Clean Energy'

G – Advising

- Active graduate students supervised

    o Ph.D. and M.Sc. theses in progress (supervisor)
        - Malisovas Athanasios (Ph.D.)
        - Mandourarakis Ioannis (Ph.D.)
        - Peristeropoulos Antonios Fivos (M.Sc.)
        - Roditis Ioannis (M.Sc.)
        - Vardaxis Ioannis (M.Sc.)

    o Ph.D. and M.Sc. Degrees completed (committee member)
        - Konstantinidis Georgios (M.Sc.)

    o Ph.D. and M.Sc. Degrees in progress (committee member)
        - Mitropoulos Charalampos – Ioannis (Ph.D.)
        - Samii Amirhossein (Ph.D.)
        - Amourgianos – Lorentzos Vasilios (M.Sc.)
        - Arkalakis Ioannis (M.Sc.)
        - Dakanalis Michail (M.Sc.)
        - Flokos Theodoros (M.Sc.)
        - Kalaitzakis Iason-Christos (M.Sc.)
        - Karandinou Aikaterini – Agapi (M.Sc)
        - Katsaras Stavros – Raphail (M.Sc.)
        - Kladou Anastasia (M.Sc.)
        - Kyriakakis Thomas (M.Sc.)
        - Kyriakou Dimitra (M.Sc.)
        - Morianos Ioannis (M.Sc.)
        - Peponakis Emmanuel (M.Sc.)
        - Savvakos Charalampos (M.Sc.)
        - Tsamoudalis Konstantinos (M.Sc.)
        - Viskadouraki Evaggelia (M.Sc.)

- Undergraduate students supervised

    o Diploma theses completed (supervisor)
        - Apostolakis Dimitrios
        - Koutsoumpas Loukas
        - Kyriakidis Nikolaos – Lazaros
        - Mavrommatis Stylianos
        - Perraki Maria
        - Ropi Mikel
        - Stamatiadis Ioannis
        - Triantafyllou Ioannis
        - Tychalas Petros

- Diploma theses completed (committee member)
  - Antonopoulos Alexandros
  - Christofilakis Tryfon
  - Gioumatzidis Meletios
  - Kalosynakis Minas – Diomfeas
  - Kartsonakis Georgios
  - Kyriakou Dimitra
  - Laskaris Andreas
  - Lintas Stefanos
  - Panagioulakis Stefanos
  - Sartzetakis Antonios
  - Spyridakis Christos

- Diploma theses supervised (in progress, active)
  - Anastasopoulos Georgios
  - Geroulanos Sokratis
  - Karelioti Maria
  - Lioudakis Emmanuel
  - Litsios Sotirios
  - Lytis Dimitrios
  - Metavitsiadis Ioannis
  - Paraskeva Eleni
  - Petrakis Emmanuel
  - Proestakis Ioannis
  - Psychogios Nikolaos
  - Sdoukos Thomas
  - Stefanakis Konstantinos
  - Stratakis Ippokratis
  - Tsaparas Christos

- Diploma theses in progress (committee member)
  - Apostolopoulos Theodoros
  - Delakis Nikolaos
  - Enotiadis Nikolaos
  - Gagali Evmorfia
  - Gkiata Ioanna
  - Karampasoglou Dimitrios
  - Karatsoris Herodotus
  - Kargiotakis Georgios
  - Komitopoulos Nikolaos
  - Kyriazakis Kleanthis
  - Lefakis Emmanuel
  - Mertarakis Andreas
  - Moraitis Ioannis
  - Moschakis Ioannis
  - Piniaras Dimitrios

- Pitta Eleni
- Pronios Filippos
- Rampias Sarantis
- Saounis Lampros
- Triantaphyllou Panagiotis
- Vasilakis Georgios
- Voulgaris Stylianos
- Zachariou Ioannis
- Zafeiropoulos Michail

Technical University of Crete

School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: George S. Stavrakakis
Rank: Full Professor
Years in rank: 27
Full-time or part-time: Full-time
Lab affiliation: Circuits, Sensors and Renewable Energy Sources (CSRES) Laboratory (www.elci.tuc.gr)

A – Teaching

- Undergraduate courses taught
  - ENE 301: Power Systems – I (mandatory)
  - ENE 511: Renewable Energy Sources

- Graduate courses taught
  - SYS 601: Advanced Topics in Optimal Control

- Labs taught:
  - ENE 301: Power Systems – I (mandatory)
  - ENE 511: Renewable Energy Sources

- Curriculum & course development
  - New courses / labs developed
  - Lecture notes / slides developed
    *Updated lecture notes / slides developed
    for the ENE 301: Power Systems – I (mandatory)*
  - Authored textbooks

B – Publications

- Publications in refereed journals

  - Published:
    - GEORGIOS BATSIS, PANAGIOTIS PARTSINEVELOS and GEORGIOS STAVRAKAKIS "A Deep Learning and GIS Approach for the Optimal Positioning of Wave Energy Converters" Energies 2021, 14, 6773. https://doi.org/10.3390/en14206773.
- Publications in refereed conferences:

- Books and edited book chapters (started in 2020, continued during 2021, achieved-published at the end of November 2022)
  - Prof. GEORGE S. STAVRAKAKIS, GUEST EDITOR, "Alternative Sources of Energy Modeling and Automation" (open source BOOK), MDPI Books- St. Alban-Anlage 66 4052 Basel, Switzerland, 2022, ISBN: 978-3-03928-375-0

- Patents: one patent in the national level (see below)
  - GR: Έξυπνη μέθοδος και ολοκληρωμένη ηλεκτρονική διάταξη διαχείρισης πληροφοριών σε συστήματα εξασφάλισης εσωτερικής άνεσης με ταυτόχρονη ενεργειακή διαχείριση κτιρίων. (OBI2004010045) EN: Intelligent methodology and integrated electronic device of information processing ensuring the indoor comfort with simultaneous energy management in buildings. (OBI2004010045)

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - "Centre for the study and sustainable exploitation of Marine Biological Resources (CMBR)", GSRT-Greece financing, Started January 2018-Duration until 30 Match 2022.Senior researcher.

  - "Development, Study, Production and Environmental Analysis of Advanced Solar Thermal Collectors and Heat Storage Systems Using Vacuum and Phase Change Materials ", acronym" ASVaCS– T1EDK-01740 "- Code no 81809 of the Special Account of Research Funds of TUC. COMPETITIVENESS ENTREPRENEURSHIP AND INNOVATION, RESEARCH - CREATE - INNOVATE 2014-2020». Duration of the contract: 1st January 2021-31 December 2021. Senior researcher.

- Project proposals submitted:**--**

E – Professional service

- Associate Editor duties:
  - Member of the Editorial Board and permanent reviewer of the peer review international journal "ENERGIES" i.e. http://www.mdpi.com/journal/energies/editors#editorialboard

- Society Technical Committee duties:
  - Once in the International Committee of Electrical Machines- ICEM

- Conference Organization (specify role): none

- Reviewing activities

  - Regular Reviewer in eight high quality international Journals with referees:

- Journal of Intelligent and Robotic Systems
- IEEE Transactions on Energy Conversion
- Electric Power Systems Research
- International Journal of Distributed Sensor Networks
- Renewable Energy journal
- Reviewer on call basis IEEE Transactions on Automation Science and Engineering
- Neural Computing and Applications
- Applied Sciences

- Participation in National Committees: one

  - "Member of the Permanent Committee of the Prefecture of Crete for the Energy Planning of Crete Island"

F – Service to the School and the University

- School – level responsibilities
  - None

- University responsibilities
  - None

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students completed (supervisor)
    - None

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Blazakis Konstantinos (Ph.D.)
    - Kladou Anastasia (M.Sc.)
    - Liliopoulos Sotirios (M.Sc.)
    - Viskadouraki Evaggelia (M.Sc.)

  - Ph.D. and M.Sc. Degrees completed (committee member)
    - Konstantinidis George (M.Sc.)

  - Ph.D. and M.Sc. Degrees in progress (committee member)
    - Mandourarakis Ioannis (Ph.D.)
    - Tripolitakis Evangelos (Ph.D.)
    - Anastasiadi Nikoleta (M.Sc.)
    - Karandinou Aikaterini – Agapi (M.Sc)
    - Katsaras Stavros – Raphail (M.Sc.)
    - Peristeropoulos Antonios – Fivos (M.Sc.)
    - Symiakakis Matheos (M.Sc.)

- - Vardaxis Ioannis (M.Sc.)
  - Dakanalis Michail (M.Sc.)
  - Kalaitzakis Iason-Christos (M.Sc.)
  - Roditis Ioannis (M.Sc.)
  - Kyriakou Dimitra (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (supervisor)
    - Gioumatzidis Meletios
    - Kartsonakis Georgios
    - Stamatelou Efthalia
    - Pentaris Dimitrios
    - Kampourakis Nomikos

  - Diploma theses completed (committee member)
    - Christofilakis Tryfon
    - Koutsoumpas Loukas
    - Kyriakidis Nikolaos – Lazaros
    - Kyriakou Dimitra
    - Laskaris Andreas
    - Leontsinis Konstantinos
    - Lintas Stefanos
    - Mavrommatis Stylianos
    - Michalopoulos Ioannis
    - Panagioulakis Stefanos
    - Prarakis Ioannis
    - Ropi Mikel
    - Sartzetakis Antonios
    - Stamatiadis Ioannis
    - SymiakakisMathaios
    - Triantafyllou Ioannis
    - Tychalas Petros

  - Diploma theses supervised (in progress, active)
    - Chalevidis Dimitrios
    - Desis Marios
    - Giannopoulos Emmanuel
    - Gakis Konstantinos – Panagiotis
    - Georgakopoulos Alexandros
    - Gkiata Ioanna
    - Kourtidis Dimitrios
    - Mertarakis Andreas
    - Rousakis Skouloudis
    - Sgourou Maria
    - Triantafyllou Panagiotis
    - Tsokas Vasilios

- Zafiropoulos Michail
- Zarkada Savvoula
- Kyriakopoulos Ioannis

- Diploma theses in progress (committee member)
  - Anastasopoulos Georgios
  - Arvanitis Chrysostomos
  - Athanasiou Sofia
  - Bitzanakis Iosif
  - Delakis Ioannis
  - Enotiadis Nikolaos
  - Exarchakos Georgios
  - Gagali Evmorfia
  - Geroulanos Sokratis
  - Gkentsoudis Stylianos
  - Ioannou Ioannis
  - Karelioti Maria
  - Koutalaki Maria – Eleni
  - Litsios Sotirios
  - Lytis Dimitrios
  - Metavitsiadis Ioannis
  - Moshakis Ioannis
  - Paraskeva Eleni
  - Petrakis Emmanuel
  - Proestakis Ioannis
  - Psychogios Nikolaos
  - Stefanakis Konstantinos
  - Stratakis Ippokratis
  - Tsaparas Christos
  - Tsarknias Stergios
  - Virirakis Georgios
  - Voulgaris Stylianos
  - Zachariou Ioanna

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Nikolaos Bekiaris-Liberis
Rank: Associate Professor
Years in rank: 1
Full-time or part-time: Full-time
Lab affiliation: Automation Laboratory

A – Teaching

- Undergraduate courses taught

    - SYS 201: Control Systems (mandatory)
    - SYS 411: Linear Systems (non-mandatory)

- Graduate courses taught

    - SYS 603: Nonlinear Systems

- Curriculum & course development
    - Exam developed for SYS 201.
    - Homework exercises and final project developed for SYS 411.
    - Homework exercises and final project developed for SYS 603.

B – Publications

- Publications in refereed journals

    - Submitted:
        - N. Bekiaris-Liberis, "Robust string stability and safety of CTH predictor-feedback CACC," IEEE Transactions on Intelligent Transportation Systems, under review, 2022.
    - Accepted:
        - N. Bekiaris-Liberis, "On 1-D PDE-based cardiovascular flow bottleneck modeling and analysis: A vehicular traffic flow-inspired approach", IEEE Transactions on Automatic Control, to appear, 2023.
    - Published:
        - M. Zhao, C. Roncoli, Y. Wang, N. Bekiaris-Liberis, J. Guo, and S. Cheng, "Evaluation of three generic approaches to freeway traffic state estimation with fixed and mobile sensing," IEEE Transactions on Intelligent Transportation Systems, vo. 23, pp. 1355—1377, 2022.

- Publications in refereed conferences

  - Submitted:
    - N. Bekiaris-Liberis, D. Bresch-Pietri, and N. Petit, "Predictor-feedback control of a model of microfluidic process with hydraulic input-dependent input delay," European Control Conference, submitted, 2022.
  - Accepted:
    - N. Bekiaris-Liberis, "Robustness of string stability to delay mismatch and safety of CTH predictor-feedback CACC," IEEE Conference on Decision and Control, Cancun, Mexico, 2022.
  - Published:
    - N. Bekiaris-Liberis, "On 1-D PDE-based cardiovascular flow bottleneck modeling and analysis: A vehicular traffic flow-inspired approach," IFAC Symposium on Dynamics and Control of Process Systems, including Biosystems, Busan, South Korea, 2022.

C – Awards & Distinctions

- George N. Saridis Best Transactions Paper; 2019 outstanding research paper award. (Best Regular Paper published in IEEE Transactions on Intelligent Transportation Systems among all papers published within 2016--2018.)

D – Funded Projects

- Current projects:
  - *Data-driven control of delay systems with application to connected and automated vehicles platoons.* Hellenic Foundation of Research and Innovation*;* Research Projects to Support Faculty Members & Researchers. Role: PI.

- Project proposals submitted:

  - *Micro-macro secure control of infinite-dimensional transport systems.* Horizon Europe ERC Consolidator Grant. Role: PI. *(Submitted; proposal currently in Step 2 of evaluation.)*
  - *Secure control of infinite-dimensional systems with application to vehicular traffic.* Hellenic Foundation for Research and Innovation; Always strive for excellence Theodoros Papazoglou action. Role: PI. *(Selected for funding.)*
  - *Secure control of infinite-dimensional epidemiological systems.* Hellenic Foundation for Research and Innovation; Always strive for excellence Theodoros Papazoglou action. Role: PI. *(Proposal not funded.)*
  - *Cyber-secure connected and automated mobility.* Horizon Europe RIA. Role: PI. *(Proposal not funded.)*

E – Professional service

- Associate Editor duties
    - Associate Editor member of the Editorial Board of International Federation of Automatic Control (IFAC) journal *Automatica* (publisher: Elsevier).
    - Associate Editor member of the Editorial Board of the *IEEE Transactions on Intelligent Transportation Systems* (publisher: IEEE).
    - Associate Editor member of the Editorial Board of the *2022 European Control Conference* (publisher: IEEE).
    - Associate Editor member of the Editorial Board of the *2022 IFAC Workshop on Time Delay Systems* (publisher: Elsevier).

- Society Technical Committee duties
    - Member of the IEEE Control Systems Society Technical Committee on Distributed Parameter Systems.
    - Member of the IFAC Technical Committee on Transportation Systems.
    - Member of the IFAC Technical Committee on Distributed Parameter Systems.

- Conference Technical Program Committee service
    - 2022 IFAC Workshop on Time Delay Systems.
    - 2022 Symposium on Management of Future Motorway and Urban Traffic Systems.

- Reviewing activities
    - Performed ~ 12 reviews of journal papers (including revisions) for:
        - IEEE Transactions on Automatic Control
        - IEEE Transactions on Control Systems Technology
        - IFAC Automatica
        - Society of Industrial and Applied Mathematics (SIAM) Journal on Control and Optimization
        - Systems and Control Letters (publisher: Elsevier)
        - International Journal of Control (publisher: Taylor and Francis)
        - Transportation Research Part C (publisher: Elsevier)

    - Performed ~ 5 reviews of conference papers for:
        - IEEE Conference on Decision and Control
        - European Control Conference
        - American Control Conference
        - IFAC Workshop on Time Delay Systems

F – Service to the School and the University

- School responsibilities

    - Member of the ECE Dean's Advisory Board.
    - Graduate admissions committee member.

G – Advising

- Active graduate students supervised

    - Ph.D. theses in progress (supervisor)
        - Sami Amirhossein

    - Ph.D. degrees completed (committee member)
        - Sijia Kong, Mines ParisTech. (Thesis reviewer and examiner)

- Undergraduate students supervised

    - Diploma theses completed (supervisor)

    - Diploma theses completed (committee member)
        - Pentaris Dimitrios
        - Trakkidis Petros

    - Diploma theses supervised (in progress, active)
        - Intas Nikolaos
        - Sampani Triantafyllia

    - Diploma theses in progress (committee member)
        - Arestis – Chartampilas Zisis
        - Siolis Panagiotis

H – Invited talks

- 3rd Workshop on Delays and Constraints in Distributed Parameter Systems, November, 2021.

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Aggelos Bletsas
Rank: Full Professor
Years in rank: 3.5
Full-time or part-time: Full-time
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught
  - TEL 401: Telecommunication Systems II
    (mandatory, 25 lectures, 10 psets, 1 Lab exercise, mandatory midterm and final)
  - TEL 413: Analysis & Design (Synthesis) of Telecom Modules
    (elective, 13 lectures, 7 labs, term project and final)

- Graduate courses taught
  - TEL 606: Introduction to Probabilistic Graphical Models & Inference Algorithms
    (graduate class, 25 lectures, 7 psets, term project and final)

- Labs taught
  - TEL 413: Analysis & Design (Synthesis) of Telecom Modules

B – Publications

- Publications in refereed journals

  - Published:
    - K. Skyvalakis, E. Giannelos, E. Andrianakis and **A. Bletsas**, "Elliptical DoA Estimation & Localization", *IEEE Journal of Radio Frequency Identification (J-RFID)*, Vol. 6, pp. 394-401, Jul. 2022.
    - A. Tzitzis, A. Malama, V. Drakaki, **A. Bletsas**, T. Yioultsis and A.G. Dimitriou, "Real-Time, Robot-Based, 3D Localization of RFID Tags, by Transforming Phase Measurements to a Linear Optimization Problem", *IEEE Journal of Radio Frequency Identification (J-RFID)*, Vol. 6, pp. 439-455, Jul. 2022.

- M. Ouroutzoglou, G. Vougioukas, G. N. Karystinos and **A. Bletsas**, "Multistatic Noncoherent Linear Complexity Miller Sequence Detection For Gen2 RFID/IoT", *IEEE Transactions on Wireless Communications (TWC)*, Vol. 20, No. 12, pp. 8067-8080, Dec. 2021. Conference version included among best student paper award finalists, IEEE RFID-TA 2019. 🏆
- G. Vougioukas, **A. Bletsas** and J.N. Sahalos, "Instantaneous, Zero-Feedback Fading Mitigation with Simple Backscatter Radio Tags", *IEEE Journal of Radio Frequency Identification (J-RFID)*, Vol. 5, No. 4, pp. 451-464, Dec. 2021.
- E. Giannelos, E. Andrianakis, K. Skyvalakis, A. Dimitriou and **A. Bletsas**, "Robust RFID Localization in Multipath with Phase-Based Particle Filtering and a Mobile Robot", *IEEE Journal of Radio Frequency Identification (J-RFID)*, Vol. 5, No. 3, pp. 302-310, Sept. 2021. Invited paper from IEEE RFID 2021. 🏆

- Publications in refereed conferences

  - Published:
    - R. Chatzigeorgiou, P. Alevizos and **A. Bletsas**, "Evaluation of Inference Algorithms for Distributed Channel Allocation in Wireless Networks", *IEEE International Conference on Modern Circuits and Systems Technologies (MOCAST),* June 2022, Bremen, Germany.
    - S. Peppas, E. Giannelos, G. Vougioukas and **A. Bletsas**, "Where is the Wall? Radar Imaging-Based Narrowband RFID and Reflector Localization", *IEEE International Conference on RFID (RFID)*, May 2022, Las Vegas, USA.
    - I. Vardakis, G. Kotridis, S. Peppas, K. Skyvalakis, G. Vougioukas and **A. Bletsas**, "Intelligently Wireless Batteryless RF-Powered Reconfigurable Surface", *IEEE Global Communications Conference (GLOBECOM)*, Dec. 2021, Madrid, Spain.
    - K. Skyvalakis, E. Giannelos, E. Andrianakis and **A. Bletsas**, "Elliptical DoA Estimation & Localization", *IEEE International Conference on RFID-Technology and Applications (RFID-TA)*, Oct. 2021, New Delhi, India.
    - S. Megalou, **A. Bletsas**, T. Yioultsis, A. G. Dimitriou, "Power and Phase Variation of Backscattered RFID Signal with Respect to the Incident Power at the Tag", *IEEE International Conference on RFID-Technology and Applications (RFID-TA)*, Oct. 2021, New Delhi, India.

    - E. Andrianakis, G. Vougioukas, E. Giannelos, O. Giannakopoulos, G. Apostolakis, K. Skyvalakis and **A. Bletsas**, "Drone Interrogation (and its Low-Cost Alternative) in Backscatter

Environmental Sensor Networks", *6th International Conference on Smart and Sustainable Technologies (SpliTech),* Sept. 2021, Split/Bol, Croatia.

C – Awards & Distinctions

- May 2022: **Area Editor,** for **Antennas, Channel Modeling and Localization (ACML)** area, *IEEE Transactions on Wireless Communications,* effective June 1, 2022.
  IEEE Transactions on Wireless Communications is among the leading journals in wireless research; it is organized in 9 areas, each consisting of the Area Editor, guiding approximately a dozen of Associate Editors.
- Jan. 2022: **IEEE ComSoc Distinguished Lecturer (DL)** for 2022 and 2023**.**
  https://www.comsoc.org/membership/distinguished-lecturers

D – Funded Projects

- Current projects:
  - o 1 Project funded through Hellenic Foundation of Research & Innovation (HFRI), *First Call for H.F.R.I. Research Projects to support Faculty members and Researchers and the Procurement of High-cost research equipment" (Project #: 2846).* Role: Project Coordinator.
  - o 1 Project funded through Action "Research-Create-Innovate", *Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RESEARCH - CREATE - INNOVATE (project code: T2EDK-02000).* Role: Researcher.

E – Professional service

- Journal service
  - o Area Editor, IEEE Transactions on Wireless Communications.

- Conference Technical Program Committee service
  - o IEEE Global Communications Conference (Globecom) 2022 (Communications Theory Track).
  - o IEEE Global Communications Conference (Globecom) 2022 (IoT & Sensor Networks Track).
  - o IEEE Global Communications Conference (Globecom) 2022 (Mobile Wireless Networks Track).
  - o IEEE International Conference on Communications (ICC) 2022 (IoT & Sensor Networks Track).
  - o IEEE International Conference on Communications (ICC) 2022 (Mobile Wireless Networks Track).

- o IEEE International Conference on Communications (ICC) 2022 (Cognitive Radio and AI-Enabled Networks).

- Reviewing activities
  - o Reviewer for various (class A) IEEE Journals and conferences.

F – Service to the School and the University

- School – level responsibilities
  - o Member of TUC School of ECE Executive Committee, 2021-Feb. 2022.
  - o Member of TUC School of ECE External Evaluation Committee, 2021-Feb. 2022.
  - o Member of the TUC School of ECE Committee, which prepared the documents for establishment of a new, international M.Sc. program in *Machine Learning and Data Science (MLDS)*, commenced in Fall 2022. Role: writing of core bylaws/philosophy and sustainability/feasibility study.
  - o Member of the TUC School of ECE Committee, which prepared the documents for the external evaluation of School's undergraduate program. Role: several chapters writing, syllabi gathering, coordination.
  - o Member of the TUC School of ECE Committee, which translated in English School's *Graduate Studies* guide. Role: one of the two people, who worked on this.

- University responsibilities
  - o Member of TUC Quality Assurance Committee (Dec. 2020-Feb. 2022). The committee prepared documents and material for TUC external evaluation, established TUC quality assurance manual, wrote funding proposal, assessed two new TUC degree proposals.
  - o Member of TUC Research Committee Objections Evaluation Committee (until Feb. 2022).

G – Advising

- Active graduate students supervised

  - o Ph.D. and M.Sc. theses in progress (**supervisor**)
    - ▪ Giannelos Evangelos (Ph.D.)
    - ▪ Andrianakis Emmanuel (M.Sc.)
    - ▪ Apostolakis Georgios (M.Sc.)
    - ▪ Chatzigergiou Roza (M.Sc.)
    - ▪ Doumparas Georgios (M.Sc.)
    - ▪ Karatarakis Evangelos (M.Sc.)
    - ▪ Vardakis Iosif (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (**supervisor**)
    - Kotridis Georgios
    - Nichoritis Athanasios
    - Papageorgiou Vasilios
    - Peppas Spyridon
    - Samonaki Maria
    - Vasilakopoulos Panagiotis

  - Diploma theses completed (committee member)
    - Chrysomallis Iason
    - Konstantas Christos
    - Leonidas Ioannis
    - Logothetis Emmanuel
    - Nasoulis Nikolaos
    - Nikolakakis Panteleimon
    - Tsiaousis Christos

  - Diploma theses supervised (in progress, active)
    - Andreadakis Antonios
    - Kariotakis Emmanuel
    - Mitrolaris Stavros
    - Papadopoulos Georgios
    - Perakis Georgios
    - Rentzepopoulos Athanasios
    - Sifakis Zacharias – Iosif

  - Diploma theses in progress (committee member)
    - Agapakis Titos
    - Giannakos Ioannis
    - Kavvadis Konstantinos
    - Konidakis Ioannis
    - Lyronis Stavros
    - Maragkaki Maria
    - Matsatsos Ioannis
    - Nodarakis Michail
    - Poupakis Alexandros
    - Spyropoulos Grigorios
    - Takas Panagiotis
    - Theofilou Eleni
    - Xifara Efstathia – Magdalini

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Dionissios T. Hristopulos
Rank: Professor
Years in rank: 14
Full-time or part-time: Full-time
Lab affiliation: Geostatistics Laboratory

A – Teaching

- Undergraduate courses taught

    - MATH 201: Theory of Probability (mandatory)
    - MATH 412: Stochastic Processes and Time Series Analysis

- Graduate courses taught

    - MATH 608: Stochastic Processes and Time Series Analysis
    - MATH 610: Advanced Topics in Time Series Analysis with R

- Labs taught

    - MATH 412 : Stochastic Processes and Time Series Analysis

- Curriculum & course development
    - New courses / labs developed

        - MATH 610: Advanced Topics in Time Series Analysis with R

    - Lecture notes / slides developed

        - MATH 610: Advanced Topics in Time Series Analysis with R

    - Authored textbooks
        - N/A

B – Publications

- Publications in refereed journals
  - o Diaz, J., Agioutantis, Z., **Hristopulos, D.T.,** and Luxbacher, K. Time Series Modeling of Methane Gas in Underground Mines. *Mining, Metallurgy & Exploration* (2022). https://doi.org/10.1007/s42461-022-00654-5

  - o A. Pavlides, Vasiliki. D. Agou, and **D. T. Hristopulos**. Non-parametric kernel-based estimation and simulation of precipitation amount. *Journal of Hydrology*, 612:127988, 2022. doi: https://doi.org/10.1016/j.jhydrol.2022.127988

  - o S. De Iaco, **D. T. Hristopulos**, and G. Lin. Special Issue: geostatistics and machine learning. *Mathematical Geosciences*, 54:459–465, March 2022. doi: https://doi.org/10.1007/s11004-022-09998-6

  - o V. D. Agou, A. Pavlides, and **D. T. Hristopulos**. Spatial modeling of precipitation based on data-driven warping of Gaussian processes. *Entropy*, 24(3):321, 2022. doi: https://doi.org/10.3390/e24030321

  - o K. Thanjavur, **D. T. Hristopulos**, A. Babul, K.-M. Yi, and N. Virji-Babul. Deep learning recurrent neural network for concussion classification in adolescents using raw electroencephalography signals: Toward a minimal number of sensors. *Frontiers in Human Neuroscience*, 15:705, 2021. doi: https://doi.org/10.3389/fnhum.2021.734501

  - o M. Žukovič and **D. T. Hristopulos**. Ising model for interpolation of spatial data on regular grids. *Entropy*, 23(10):1270, 2021. doi: https://doi.org/10.3390/e23101270

- Publications in refereed conferences

  - o J. Diaz, Z. Agioutantis, Hristopulos, D. T., and S. Schafrik. Managing and utilizing big data in atmospheric monitoring systems for underground coal mines. Materials Proceedings, 5(1), 2021. International Conference on Raw Materials and Circular Economy. doi: 10.3390/materproc2021005078

  - o Hristopulos, D. T. Boltzmann-Gibbs models for spatiotemporal data. In G. Jona Lasinio and F. Lagona, editors, Proceedings of the GRASPA (Gruppo di Ricerca per le Applicazioni della Statistica ai Problemi Ambientali) 2021 Conference, Rome, 07-09 June 2021, pages 17–21. Sapienza University of Rome, Department of Statistics, 2021. Invited talk. URL: https://meetings3.sis-statistica.org/public/conferences/16/schedConfs/16/program-en_US.pdf#page=35

- Publications in refereed conferences (abstracts only)

    o D. T. Hristopulos, V. D. Agou, and A. Pavlides. Data-driven Warping of Gaussian Processes for Spatial Interpolation of Skewed Data. In Geophysical Research Abstracts, volume 22, Online, May 2022. European Geosciences Union. Abstract no. EGU22-6288. URL: https://meetingorganizer.copernicus.org/EGU22/session/43286

- Books and edited book chapters

    o **D. T. Hristopulos.** Universality. In *Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series* (McKinley J.; Agterberg, F.; Daya Sagar, B.; Cheng, Q., editors), Springer, Cham. https://doi.org/10.1007/978-3-030-26050-7_340-1

    o **D. T. Hristopulos** and E. Varouchakis**.** Maximum entropy method. In *Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series* (McKinley J.; Agterberg, F.; Daya Sagar, B.; Cheng, Q., editors), Springer, Cham. https://doi.org/10.1007/ 978-3-030-26050-7_196-1

    o **D. T. Hristopulos.** Very fast simulated reannealing. In *Encyclopedia of Mathematical Geosciences, Encyclopedia of Earth Sciences Series* (McKinley J.; Agterberg, F.; Daya Sagar, B.; Cheng, Q., editors), Springer, Cham. https://doi.org/10.1007/978-3-030-26050-7_345-1

- Patents
    o N/A

C – Awards & Distinctions

- Elevated to Senior IEEE Member

D – Funded Projects

- Current projects:
    o "*Gaussian anamorphosis using kernel estimation for spatially distributed data and time series and application to precipitation*" *2020-2021 (extended),* Supporting Research with Emphasis on Early-Career Investigators, Phase B, Operational Programme for Education and Lifelong Learning, Ministry of Development and Investments, Greece, Budget: 41,541.50 €. *Role: Supervisor.*

    Project proposals submitted:
    o N/A

E – Professional service

- Associate Editor duties

  - [Member of the Editorial Board of Computers and Geosciences (published by Elsevier, 2021 IF 5.168)](#).
  - Member of the Editorial Board of the journal *Stochastic Environmental Research and Risk Assessment* [(published by Springer, 2021 IF 3.97)](#).

- Society Technical Committee duties

  - Member of the Publications Committee of the *International Association of Mathematical Geosciences*
  - Guest editor for Special Issue*: "*[Geostatistics and Machine Learning](#)*",* in the journal *Mathematical Geosciences,* published by Springer (IF 2.576)
  - Guest Editor for Special Issue "[Spatiotemporal Prediction and Simulation Methods at the Nexus of Statistical Physics, Spatial Statistics and Machine Learning](#)" in the journal *Entropy,* published by MDPI (IF 2.738)

- Conference Organization (specify role)

  - Co-convener of [HS3.3 Session](#): Advanced geostatistics for water, earth and environmental sciences & Spatio-temporal and/or (geo) statistical analysis of hydrological events, floods, extremes, and related hazards, *European Geophysical Union General Assembly* 2021.

- Reviewing activities

  - Reviewer for journals including: Mathematical Geosciences (Springer), Journal of Computational Science (Elsevier), Computers and Geosciences (Elsevier), Journal of Hydrology (Elsevier), Pervasive and Mobile Computing (Elsevier), Transactions on Signal Processing (IEEE), Open Journal of Signal Processing (IEEE)

F – Service to the School and the University

- School responsibilities
  - Member of the Dean's Board (ECE School)
  - Director of the Graduate Study Program in ECE (ECE School)
  - Director of the Machine Learning and Data Science MSc program (ECE School)

- University responsibilities
  - Member of the Appeals Examination Committee

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised (advisor, completed)

  - Ph.D. and M.Sc. students supervised (advisor, in progress)
    - <u>Vasiliki Agou</u> (Ph.D., School of Mineral Resources Engineering, Technical University of Crete)

  - Ph.D. and M.Sc. degrees awarded (committee member)
    - <u>Christos Andreou</u> (PhD), Department of Mathematics and Statistics, University of Nicosia, Cyprus

  - Ph.D. and M.Sc. Degrees (committee member)
    - <u>Panagiota Theodoridou</u> (PhD), School of Chemical and Environmental Engineering, TUC
    - <u>Konstantinos Kokkolakis</u> (PhD), School of Mineral Resources Engineering
    - <u>Tsellou Aikaterini</u> (MSc), ECE
    - <u>Sofia Nerantzaki</u>, (PhD) Department of Civil, Geological and Environmental Engineering, University of Saskatchewan, Canada

  - Undergraduate students supervised
    - N/A

  - Diploma theses in progress (supervisor - 8)
    - Exarchakos Georgios
    - Ioannou Ioannis
    - Karavolia Aggeliki
    - Karvounakis Ioannis
    - Nikandros Stavros – Konstantinos
    - Panagiotopoulou Chrysa
    - Symeonidis Petros
    - Zachariou Ioanna
  - Diploma theses completed (supervisor)
    - Karekla Anastasia
    - Koltsidopoulou Maria – Despoina

  - Diploma theses in progress (committee member)
    - Michalopoulos Christos
    - Mitrolaris Stavros
    - Poulea Efstathia
    - Sampani Triantafyllia
    - Tsapanou Lampriani
    - Vounatsos Vasilios

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: George Karystinos
Rank: Professor
Years in rank: 4
Full-time or part-time: Full-time
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught
    - TEL 201: Signals and Systems (mandatory)
    - TEL 416: Statistical Signal Processing for Communications (elective)
    - TEL 511: Number Theory and Cryptography (elective)

- Graduate courses taught
    - MATH 607: Number Theory and Cryptography (cross-listed)

- Labs taught

- Curriculum & course development
    - New courses / labs developed

    - Lecture notes / slides developed

    - Authored textbooks

B – Publications

- Publications in refereed journals

    - Submitted: those accepted (see below), plus
        - I. Mandourarakis, E. Koutroulis, and **G. N. Karystinos**, "Transmission of Digital Data to Cascaded H-bridge Converters Through the Power Line," in *IEEE Journal of Emerging and Selected Topics in Industrial Electronics*, submitted May 2022.

    - Accepted:
        - I. Mandourarakis, E. Koutroulis, and **G. N. Karystinos**, "Power Line Communication Method for the Simultaneous Transmission of Power and Digital Data by Cascaded H-Bridge Converters," *IEEE Transactions on Power Electronics*, accepted May 2022.

- o Published:
  - ▪ M. Ouroutzoglou, G. Vougioukas, **G. N. Karystinos**, and A. Bletsas, "Multistatic noncoherent linear complexity Miller sequence detection for Gen2 RFID/IoT," *IEEE Transactions on Wireless Communications*, vol. 20, pp. 8067-8080, Dec. 2021.

- Publications in refereed conferences

  - o Submitted: those accepted (see below)

  - o Accepted: those published (see below), plus
    - ▪ I. Mandourarakis, E. Koutroulis, and **G. N. Karystinos**, "Control of Cascaded H-bridge Converters for Power Line Communication," in *Proc. IECON 2022 – 48th Annual Conference of the IEEE Industrial Electronics Society*, accepted July 2022.

  - o Published:
    - ▪ I. Mandourarakis, Z. Agorastou, E. Koutroulis, **G. N. Karystinos**, and S. Siskos, "On-chip Power Line Communication for Cascaded H-bridge Power Converters," in *Proc. 2022 11th International Conference on Modern Circuits and Systems Technologies (MOCAST)*, Bremen, Germany, June 2022, pp. 1-5.

- Books and edited book chapters

- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - o "Plasma Antenna Technologies," Funding Source: European Commission, Horizon 2020 Program, Budget: € 153.000,00, Duration: Jan. 1, 2017 – Mar. 31, 2022.
  - o "Secure Communication Based on Robust 3D Localization," Funding Source: European Commission, Horizon 2020 Program, NGIatlantic.eu 3rd Open Call, Budget: € 47.500,00. Duration: Oct. 1, 2021 – May 27, 2022.

- Project proposals submitted:

E – Professional service

- Associate Editor duties

- Society Technical Committee duties
  - o Programme Committee National Representative, Marie Skłodowska-Curie Actions (MSCA) Programme Committee, European Commission's Horizon Europe Framework Programme, 2021 - present.

- Conference Technical Program Committee service

- Conference Organization (specify role):

- Reviewing activities

F – Service to the School and the University

- School – level responsibilities
  - Dean, School ECE, Sept. 1, 2021 – Aug. 31, 2024

- University responsibilities
  - Member of the Research Committee, Technical University of Crete, 2017 - present.
  - Member of the Board of Directors, Property Development and Management Company, Technical University of Crete, 2015 - present.

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students completed (supervisor)

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Fountzoulas Ioannis (Ph.D.)
    - Grypiotis Ioannis (Ph.D.)
    - Koupatsiaris Dimitrios (Ph.D.)

  - Ph.D. and M.Sc. Degrees completed (committee member)
    - Kolomvakis Christos (M.Sc.)
    - Papagiannakos Ioannis-Marios (M.Sc.)

  - Ph.D. and M.Sc. Degrees in progress (committee member)
    - Giannelos Evangelos (Ph.D.)
    - Karatarakis Evangelos (M.Sc.)
    - Vardakis Iosif (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (supervisor)
    - Konstantas Christos
    - Logothetis Emmanouil
    - Nasoulis Nikolaos

  - Diploma theses completed (committee member)
    - Karekla Anastasia
    - Koltsidopoulou Maria – Despoina
    - Kotridis Georgios

- Neonakis Pavlos – Stylianos
- Paktitis Spyridon
- Papageorgiou Vasilios
- Paschalidou Christina
- Peppas Spyridon

- Diploma theses supervised (in progress, active)
  - Agapakis Titos
  - Arestis – Chartampilas Zisis
  - Dafoulis Nikolaos
  - Giannakos Ioannis
  - Konidakis Ioannis
  - Kyriakou Christos
  - Matsatsos Ioannis
  - Nodarakis Michail
  - Spyropoulos Grigorios
  - Theofilou Eleni
  - Xifara Efstathia-Magdalini

- Diploma theses in progress (committee member)
  - Andreadakis Antonios
  - Karagiannis – Xanthakis Leonidas
  - Kariotakis Emmanuel
  - Limnaios Emmanuel
  - Oikonomou Asterios
  - Papamanolis Anastasios
  - Polyzos Christos
  - Rentzepopoulos Athanasios
  - Sofakis Zacharias – Iosif
  - Ziogas Alexandros

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Liavas Athanasios
Rank: Professor
Years in rank: 12
Full-time or part-time: Full-time
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught

    o HMY 101: Introduction to Computers and Computer Science
    o TEL 302: Telecommunications Systems I (mandatory)
    o TEL 414: Convex Optimization (X-listed)

- Graduate courses taught

    o TEL 609: Convex Optimization (X-listed)
    o TEL 615: Advanced topics in Convex Optimization

- Labs taught

- Curriculum & course development

    o New courses / labs developed

    o Lecture notes / slides developed
        Convex Optimization (updated notes, updated exercises)

    o Authored textbooks

B – Publications

- Publications in refereed journals

    o Submitted: those published/appeared (see below)
    o Accepted:
    o Published:
        ▪ P. Karakasis, **A. P. Liavas**, N. D. Sidiropoulos, P. Simos, and E. Papadaki "Multi-subject task-related fMRI data processing via a two-stage generalized canonical correlation analysis," *IEEE*

Transactions on Image Processing, vol. 31, pp. 4011-4022, May 2022.

- Publications in refereed conferences

    o Submitted: those published/appeared (see below)
    o Accepted:
    o Published:
        ▪ **A. P. Liavas**, I.-M. Papagiannakos, and C. Kolomvakis, "Nonnegative Tensor Completion: step-sizes for an accelerated variation of the stochastic gradient descent," *30th European Signal Processing Conference (EUSIPCO),* August, 2022.

- Books and edited book chapters:
    P. A Karakasis, C. Kolomvakis, G. Lourakis, G. Lykoudis, I.- M. Papagiannakos, I. Siaminou, C. Tsalidis, A. P. Liavas, "PARTENSOR: a toolbox for parallel canonical polyadic decomposition," in Tensors for Data Processing, Academic Press, 2022.

- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:

    o PARTENSOR: parallel algorithms for very large tensor processing (T1EΔK-03366) (Duration: 2018-2021).

- Project proposals submitted:

E – Professional service

- Associate Editor duties

- Society Technical Committee duties

- Conference Technical Program Committee service

- Conference Organization (specify role):

- Reviewing activities

    o Reviewer for EUSIPCO 2022, IEEE Transactions on Signal Processing.

F – Service to the School and the University

- School – level responsibilities

- University responsibilities

G – Advising

- Active graduate students supervised

  - Ph.D. and M.Sc. students completed (supervisor)
    - Georgogiannis Alexandros (Ph.D.)
    - Kolomvakis Christos (M.Sc.)
    - Papagiannakos Ioannis-Marios (M.Sc.)

  - Ph.D. and M.Sc. theses in progress (member)
    - Koupatsiaris Dimitrios (Ph.D.)
    - Klados Georgios (M.Sc.)
    - Orfanoudakis Emmanuel (M.Sc.)
    - Politof Konstantinos (M.Sc.)
    - Tsakaneli Stavroula (M.Sc.)

  - Ph.D. and M.Sc. Degrees completed (committee member)
    - Sofikitis Emmanuel (M.Sc.)

- Undergraduate students supervised
  - Diploma theses completed (supervisor)
    - Neonakis Pavlos – Stylianos
    - Paktitis Spyridon

  - Diploma theses completed (committee member)
    - Delatolas Athanasios
    - Karekla Anastasia
    - Logothetis Emmanuel
    - Nasoulis Nikolaos
    - Nikolakakis Panteleimon
    - Simos Nikolaos – Ioannis

  - Diploma theses supervised (in progress, active)
    - Limnaios Emmanuel
    - Papamanolis Anastasios
    - Polyzos Christos
    - Poulea Efstathia
    - Ziogas Alexandros

  - Diploma theses in progress (committee member)
    - Agapakis Titos
    - Dafoulis Nikolaos
    - Karvounakis Ioannis
    - Kyriakou Charalampos
    - Matsatsos Ioannis

- Nodarakis Michail
- Symeonidis Petros
- Vounatsos Vasilios

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Michael Paterakis
Rank: Professor
Years in rank: 23
Full-time or part-time: Full-time
Lab affiliation: Information and Computer Networks Laboratory

A – Teaching

- Undergraduate courses taught

    o TEL 402: Computer Networks I (Mandatory)
    o TEL 420: Modelling and Performance Analysis of Communication Networks (Elective)

- Graduate courses taught

    o TEL 601: Probability Theory and Stochastic Processes
    o TEL 611: Modelling and Performance Analysis of Communication Networks

B – Publications

C – Awards & Distinctions

D – Funded Projects

- Current projects:

    o Independent Auditor for the Project: "Development of Broadband Infrastructure in Rural "White" Areas of Greek Territory and Operations Services – Development of Infrastructure", Public Private Partnerships Project. Funded for the period 1/1/2015 – 31/12/2031 by the special purpose entities "OTE Rural North" and "OTE Rural South". Budget: 1.843.208 €.

E – Professional service

F – Service to the School and the University

- School responsibilities

  - 2019 – , Director, Information and Computer Networks Laboratory, ECE School, Technical University of Crete.

- University / Other responsibilities

  - June 2013 – December 2025, Director and Chairman of the Board, Telecommunication Systems Research Institute (T.S.I.), Technical University of Crete.

G – Advising

- Active graduate students supervised

  - Ph.D. and M.Sc. students completed (supervisor)
    - Sofikitis Emmanuel (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (supervisor)
    - Nikolakakis Panteleimon

  - Diploma theses completed (committee member)
    - Neonakis Pavlos – Stylianos

  - Diploma theses supervised (in progress, active)
    - Kavvadis Konstantinos

  - Diploma theses in progress (committee member)
    - Kafritsa Georganta – Sofia
    - Ziogas Alexandros

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Thrasyvoulos Spyropoulos
Rank: Professor
Years in rank: 1
Full-time or part-time: Full-time from Apr. 4, 2022 (date of appointment) to Aug. 31, 2022
Lab affiliation: Information and Networks

A – Teaching

- Undergraduate courses taught

- Graduate courses taught
    - TEL 607: Special Topics in Communication Networks

- Labs taught

- Curriculum & course development
    - New courses / labs developed
        - TEL 402: Computer Networks I
        - TEL 422 / TEL722: Large and Social Networks: Modeling and Analysis

    - Lecture notes / slides developed
        - TEL422 / TEL722: Large and Social Networks: Modeling and Analysis

    - Authored textbooks

B – Publications

- Publications in refereed journals

    - Submitted: those published/appeared (see below)
        - D. Tsigkari, G. Iosifidis, T. Spyropoulos, "Quid pro Quo in Streaming Services: Algorithms for Cooperative Recommendations," IEEE Trans. On Mobile Computing

    - Accepted:
        - P Mach, Z Becvar, T Spyropoulos, "Coping with Spatial Unfairness and Overloading Problem in Mobile Networks via D2D Relaying," IEEE Wireless Communications Magazine, 2022

- - B Serbetci, E Lampiris, T Spyropoulos, G Caire, P Elia, "Multi-Transmitter Coded Caching Networks With Transmitter-Side Knowledge of File Popularity," ACM/IEEE Trans. On Networking, 2022
    - A Madelkhanova, Z Becvar, T Spyropoulos, "Optimization of Cell Individual Offset for Handover of Flying Base Stations and Users," IEEE Trans. on Wireless Communications, 2022

- Publications in refereed conferences
  - Submitted: those published/appeared (see below)

  - Accepted:
    - M. Costantini, N. Liakopoulos, P. Mertikopoulos, and T. Spyropoulos, "Pick your neighbor: Local Gauss-Southwell rule for fast asynchronous decentralized optimization," IEEE Conference on Decision and Control (CDC), 2022
    - P. Doanis, T. Giannakas, T. Spyropoulos, "Scalable end-to-end slice embedding and reconfiguration based on independent DQN agents," IEEE Globecom 2022
    - D. Tsigkari, T. Spyropoulos, "Caching and Recommendation Decisions at Transcoding-Enabled Base Stations," IEEE Globecom 2022
    - M. Nogueira et al., "Can Recommenders Compensate for Low QoS?," IEEE Globecom 2022

- Books and edited book chapters

- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - AI4RecNets: Artificial Intelligence (AI) Driven Co-design of Recommendation and Networking Algorithms, ELIDEK

- Project proposals submitted:

E – Professional service

- Associate Editor duties

- Society Technical Committee duties

- Conference Technical Program Committee service
  - IEEE Infocom 2022
  - IEEE CAMAD 2022

- Conference Organization (specify role):

- o   IEEE CAMAD 2022 (SEMANTIC workshop co-chair)

- •   Reviewing activities

F – Service to the School and the University

- ●   School responsibilities

    - o   Erasmus committee
    - o   Faculty hiring committee

- ●   University / Other responsibilities

G – Advising

- •   Active graduate students supervised
    - o   Ph.D. and M.Sc. students completed (supervisor)

    - o   Ph.D. and M.Sc. theses in progress (supervisor)

    - o   Ph.D. and M.Sc. Degrees completed (committee member)

    - o   Ph.D. and M.Sc. Degrees in progress (committee member)
        - ▪   Samii Amirhossein (Ph.D.)
        - ▪   Chatzigeorgiou Roza (M.Sc.)

- •   Undergraduate students supervised

    - o   Diploma theses completed (supervisor)

    - o   Diploma theses completed (committee member)
        - ▪   Konstantas Christos

    - o   Diploma theses supervised (in progress, active)

    - o   Diploma theses in progress (committee member)

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Michail Zervakis
Rank: Professor
Years in rank: 22
Full-time or part-time: Full-time
Lab affiliation: 1. Digital Image and Signal Processing Lab
                      2. Lab of Automation

A – Teaching

- Undergraduate courses taught

    - TEL 301: Digital Signal Processing (mandatory)
    - TEL 311: Statistical Modeling and Pattern Recognition

- Graduate courses taught

    - TEL 616: Statistical Modeling and Pattern Recognition

- Labs taught

- Curriculum & course development

    - New courses / labs developed

    - Lecture notes / slides developed
        - TEL 311: Machine Learning and Pattern recognition

    - Authored textbooks

B – Publications

- Publications in refereed journals

    - Submitted: those published/appeared (see below)

    - Accepted:

    - Published:
        - M Sarafidis, P Toumpaniaris, I Kouris, N Karanasiou, K Moirogiorgou, M Kalla, G Matsopoulos, V Aisopou, A Fourlis, N

Anousakis – Vlachochristou, A Chandrinou, F Psarros, N Costaridis, M Zervakis, D Koutsouris, "eMass: A Smart Digital Tool For Efficient Management And Medical Assessment of The New Recruits In Greek Armed Forces", Journal of Research in Medical & Engineering Sciences, 2021, Volume 9 Issue 2 ISSN: 2576-8816, DOI: 10.31031/RMES.2021.09.000706

- K. Kumar Singh, S Kumar, M Antonakakis, K. Moirogiorgou, A Deep, KL Kashyap, M Kumar Bajpai, M Zervakis (2022). Deep Learning Capabilities for the Categorization of Microcalcification. Int. J. Environmental Research and Public Health 2022, 19, 2159. https://doi.org/10.3390/ijerph19042159

- N G Bourbakis, K Michalopoulos, M Antonakakis, M Zervakis (2022). A New Multi-resolution Approach to EEG Brain Modeling Using Local-Global Graphs and Stochastic Petri-Nets. Int J Neural Systems 26;2250006

- Publications in refereed conferences

  - Submitted: those published/appeared (see below)

  - Accepted:

  - Published:
    - M. Antonakakis, K. Politof, G. Klados, G. Sdoukopoulou, S. Schiza, M. Panadogiorgaki, C. Farmaki, M. Pediaditis, M. Zervakis, V. Sakkalis, "Heart Rate Classification Using ECG Signal Processing and Machine Learning", IEEE 21st International Conference on Bioinformatics and Bioengineering (IEEE BIBE), Oct. 2021, Kragujevac, Servia. **(Best Paper Award - 1st place)**
    - T. Zacheilas, K. Moirogiorgou, N. Papandroulakis, E. Sotiriades, M. Zervakis, A. Dollas, "An FPGA-Based System for Video Processing to Detect Holes in Aquaculture Nets", IEEE 21st International Conference on Bioinformatics and Bioengineering (IEEE BIBE), Oct. 2021
    - M. Papadogiorgaki, M. Venianaki, P. Charonyktakis, M. Antonakakis, I. Tsamardinos, M. Zervakis, V. Sakkalis, "Heart Rate Classification Using ECG Signal Processing and Machine Learning Methods", IEEE 21st International Conference on Bioinformatics and Bioengineering (IEEE BIBE), Oct. 2021, Kragujevac, Servia
    - GA Klados, K Politof, ES Bei, K Moirogiorgou, N Anousakis-Vlachochristou, GK Matsopoulos, M Zervakis, "Machine Learning Model for Predicting CVD Risk on NHANES Data", 43rd Intl Conf. of the IEEE Engineering in Medicine & Biology Society (IEEE

EMBC), Oct 31 - Nov 4, 2021. Virtual Conference https://doi.org/10.1109/EMBC46164.2021.9630119

- Aikaterini Tsellou, Konstantia Moirogiorgou, Georgios Plokamakis, George Livanos, Kostas Kalaitzakis, Michalis Zervakis, "Aerial video inspection of Greek power lines structures using machine learning techniques", 2022 IEEE International Conference on Imaging Systems and Techniques (IEEE IST), Virtual Conference | June 21-23 2022.

- Konstantia Moirogiorgou, Freiderikos Raptopoulos, George Livanos, Stavros Orfanoudakis, Maria Papadogiorgaki, Michalis Zervakis, Michail Maniadakis, "Intelligent robotic system for urban waste recycling", 2022 IEEE International Conference on Imaging Systems and Techniques (IEEE IST), Virtual Conference | June 21-23 2022.

- M Antonakakis, K Tsakos, A Tzavaras, E.G Spanakis, V Sakkalis, E Petrakis, M Zervakis (2022). Real-Time Object Detection using an Ultra-High-Resolution Camera on Embedded Systems. 2022 Annual Int. Conf. on Imaging Systems and Techniques (IEEE IST), Kaohsiung, Taiwan

- A Karasmanoglou, M Antonakakis, M Zervakis. Towards a heatmap-based explanation of YOLOv5 object detection results with Layer-wise Relevance Propagation (2022). Annual Int. Conf. on Imaging Systems and Techniques (IEEE IST), Kaohsiung, Taiwan

- M Antonakakis, SI Dimitriadis, M Zervakis, AC Papanicolaou and G Zouridakis (2022). Characterization of mild Traumatic Brain Injuries with Network Microstates of Dominant Functional Connectivity from MEG-based Beamformed Connectivity Analysis. 22nd Int. Conf. on Biomagnetism (Biomag2022), Birmingham, UK

- K Politof, M Antonakakis, SI Dimitriadis, M Zervakis, and G Zouridakis (2022). Characterization of Mild Traumatic Brain Injury using Finite Element Head Modeling and Fused EEG/MEG Source Connectivity Analysis .22nd Int. Conf. on Biomagnetism (Biomag2022), Birmingham, UK

- C. Farmaki, M. Pediaditis, M. Papadogiorgaki, E. G. Spanakis, M. Zervakis, S. Schiza, N. Tzanakis, E. Galanakis and V. Sakkalis, "Contactless Sleep Monitoring in a Real-Life Clinical Environment", 44th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'22), July 11-15, 2022, Glasgow, UK.

- A. Grammatikopoulou, N. Grammalidis, M. Papadogiorgaki, M. E. Zervakis, "A platform for health emergency warning and wandering behaviour detection supporting people with Intellectual Disability", International Conference on PErvasive Technologies

Related to Assistive Environments (PETRA 2022), Workshop on QUality of LifE Support SysTem for People sufferIng from COgNitive impairments or Intellectual Disabilities (QUESTION), June 29-July 1, 2022, Corfu, Greece.

- Books and edited book chapters

- Patents
  - *GRANTED*

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - European Commission, Directorate-General for Communications Networks, Content and Technology, A.4 – Digital Transformation of Industrial Ecosystems, Call: DIGITAL-2021-EDIH-01, Project Name: European Digital Innovation Hub for Smart Health: Precision Medicine and Innovative E-health Services, project acronym: **''smartHEALTH''**
  - Ministry of Development and Investments, General Secretariat for Research and Innovation, ''Network for the promotion and support of innovative research in areas of island territories'', **''GNΩSI''** – Δίκτυο Ανάδειξης Υποστήριξης και Προώθησης Ερευνητικής Καινοτομίας Νησιωτικής Ελλάδας
  - 2021-2024 **RE-EURECA-PRO** – REsearch and innovation dimension of the European University on Responsible Consumption And PROduction; European Commission Horizon 2020; IBA-SwafS-Support-2-2020
  - 2020-2023 Horizon 2020; BES-2-2019 **BorderUAS** - Semi-autonomous border surveillance platform combining next generation unmanned aerial vehicles with ultra-high-resolution multi-sensor surveillance payload (BorderUAS); Leader of ECE team for TUC
  - Ministry of Rural Development and Food, Operational Program Maritime & Fisheries 2014 – 2020, ''Application of Smart Systems for enhanced fish management and welfare in cage aquaculture,**'' iFish''**
  - Ministry of Development and Investments, General Secretariat for Research and Innovation, Research – Create – Innovate, ''Standard Services of Medical Assessment, Prevention and Stratification for Recruits in Armed Forces and Evaluation of Health Indicators'', Project acronym: **''e – Mass''** - «Πρότυπες υπηρεσίες ιατρικής αξιολόγησης, πρόληψης και διαστρωμάτωσης στρατευσίμων και εκτίμηση δεικτών υγείας», κωδικός έργου: T1EΔK – 03505
  - Ministry of Development and Investments, General Secretariat for Research and Innovation, Research – Create – Innovate, ''Advanced Monitoring System for Infants'', Project acronym: **''x (επι) ΒΛΕΨΙΣ''** –

‘'Προηγμένο Σύστημα Πρόληψης Επικίνδυνων Καταστάσεων για Βρέφη'', κωδικός έργου: Τ1ΕΔΚ – 04440

- o Ministry of Development and Investments, General Secretariat for Research and Innovation, Research – Create – Innovate, ‘'Autonomous robotic system for urban waste recycling'', Project acronym: ‘'**ANASA'',** ‘'Αυτόνομο ρομποτικό σύστημα για ανακύκλωση αστικών απορριμμάτων'', κωδικός έργου: Τ1ΕΔΚ – 03110

- o Ministry of Development and Investments, General Secretariat for Research and Innovation, Research – Create – Innovate, ‘'sMart fArming with dRoneS'', Project acronym: **‘'MARS''** – ‘'Έξυπνη Γεωργία με την χρήση Drones'', κωδικός έργου: Τ1ΕΔΚ – 04759

- o Ministry of Development and Investments, General Secretariat for Research and Innovation, Research – Create – Innovate, ‘'Aerial Video Inspection of Greek power lines structures'', Project acronym: **‘'AdVISEr''** – Αυτοματοποιημένη εποπτεία εναέριας λήψης του Ελληνικού Δικτύου γραμμών μεταφοράς ρεύματος, κωδικός έργου: Τ2ΕΔΚ – 03595

- o Ministry of Development and Investments, General Secretariat for Research and Innovation, Research – Create – Innovate, ‘'Quality of Life Support System for People with Intellectual Disability'', Project acronym: **‘'QuaLiSID''** – ‘'Σύστημα Υποστήριξης Ποιότητας Ζωής για Άτομα με Νοητική Αναπηρία'', κωδικός έργου: Τ2ΕΔΚ – 00306

- Project proposals submitted:

  - o In-Eureca-Pro, EIT proposal, 2021
  - o TREEFENCE proposal HORIZON-CL3-2022-INFRA-01-01

E – Professional service

- Associate Editor duties
  - o **_Associate Editor_**, since 1/1/2017, Journal of Biomedical Signal Processing and Control, https://ees.elsevier.com/bspc
  - o **_Associate Editor_**, since 1/1/2017, IEEE Journal of Biomedical and Health Informatics, http://jbhi.embs.org/editorial-board/associate-editors/

- Society Technical Committee duties
  - o Technical Committee co-chair, IEEE Instrumentation and Measurement Society, TC-19 Imaging Measurements and Systems, since 20/1/2017

- Conference Technical Program Committee service
  - o Organizing Committee member, The 22nd IEEE International Conference on BioInformatics and BioEngineering (IEEE BIBE 2022), Taiwan https://bibe2022.asia.edu.tw/
  - o Honorary Co-Chair, IEEE International Conference on Imaging Systems

and Techniques (IEEE IST 2022), Taiwan, https://ist2022.ieee-ims.org/

- Conference Organization (specify role):
  - Special Session Organizer: M Antonakakis and M Zervakis. Biomedical image and signal methods and applications for analysing human abnormal body responses (2022). IEEE BHI-BSN 2022,

    https://bhi-bsn-2022.org/?page_id=3212

  - Special Issue Editor: M Zervakis and M Antonakakis (2022). MDPI – Sensors (Impact factor: 3.847). Special Issue "Advances on UAV-based Sensing & Imaging."

    https://www.mdpi.com/journal/sensors/special_issues/UAV_SI

- Reviewing activities
  - Reviewer for IEEE BHI, IEEE EMBC, IEEE IST

F – Service to the School and the University

- School responsibilities
  - Digital Image and Signal Processing Laboratory, Director
  - Automation Laboratory, Director

- University responsibilities
  - Vice-Rector of Research and Life-long Learning, TUC
  - President of ELKE
  - Member of the Senate, TUC

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students completed (supervisor)

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Liaba Irini (Ph.D.)
    - Livanos Georgios (Ph.D.)
    - Moirogiorgou Constantia (Ph.D.)
    - Karasmanoglou Apostolos (M.Sc)
    - Klados Georgios (M.Sc.)
    - Pateraki Eleni (M.Sc.)
    - Politof Konstantinos (M.Sc.)
    - Tsakaneli Stavroula (M.Sc.)
    - Tsellou Aikaterini (M.Sc.)

  - Ph.D. and M.Sc. Degrees completed (committee member)
    - Vogiatzis Antonios

- o Ph.D. and M.Sc. Degrees in progress (committee member)
    - Tsapras Athanasios (Ph.D.)
    - Epitropou Georgios (M.Sc.)
    - Kalokyri Varvara (M.Sc.)
    - Koutroulakis Efstratios (M.Sc.)
    - Liliopoulos Sotirios (M.Sc.)
    - Mporas Charalampos (M.Sc.)
    - Ntoumparas Georgios (M.Sc.)
    - Sfakianakis Vasilios (M.Sc.)
    - Thermolia Chryso (M.Sc.)
    - Trigkas Nikolaos (M.Sc.)
    - Vardakis Iosif (M.Sc.)

- Undergraduate students supervised

  - o Diploma theses completed (supervisor)
    - Delatolas Athanasios
    - Gallou Olympia
    - Malefioudakis Veniamin
    - Paschalidou Christina
    - Pinitas Kosmas
    - Simos Nikolaos – Ioannis
    - Zacharioudakis Nikolaos

  - o Diploma theses completed (committee member)
    - Galanis Michail
    - Galanos georgios
    - Gialitakis Emmanuel
    - Kargakos Stefanos
    - Kastrinakis Dimitrios
    - Koltsidopoulou Maria – Despoina
    - Mpokalidis Anastasios
    - Myrkos Dimosthenes
    - Stamatelou Efthalia
    - Sotiropoulou Ileanna
    - Vlachos Alexios

  - o Diploma theses supervised (in progress, active)
    - Antoniadis Theodoros
    - Athanasiou Sofia
    - Galanomati Sofia
    - Gentsoudis Vasilios
    - Georgakilas Christos
    - Giovanoglou Vasilios

- Konidari Iro
- Koutalaki Maria – Eleni
- Maragkoudakis Antonios – Emmanuel
- Papanastasiou Anastasios – Panagiotis
- Politis Marios
- Trimas Christos
- Tsapanou Lampriani
- Vlassopoulos Evangelos – Stylianos

- o Diploma theses in progress (committee member)
  - Chatzipetros Alexandros
  - Chazlis Georgios
  - Fleggas Georgios
  - Kampilafkas Anastasios
  - Karamailis Panteleimon
  - Karavolias Aggeliki
  - Karvounakis Ioannis
  - Kastellakis Antonios
  - Kourtidis Dimitrios
  - Koutroumpas Georgios
  - Kriotakis Emmanuel
  - Makris Ioannis
  - Manesiotis Athanasios
  - Mantala Christina
  - Michail Sotirios
  - Michalopoulos Christos
  - Mylonakis Emmanuel
  - Nikolakakis Stylianos
  - Nikoloulias Dimitrios – Marios
  - Ntaphi Irene
  - Palatiana Nikoleta
  - Paleologk Chariton
  - Panagiotopoulou Chrysa
  - Pantzekos Lampros
  - Papamanolis Anastasios
  - Pitteros Alexandros
  - Polyzos Christos
  - Poulea Efstathia
  - Sgourou Maria
  - Sofroniou Pavlos
  - Stasinou Ioanna – Andromachi
  - Stavgianoudakis Stavros
  - Theodoraki Emmanuela
  - Theodorakis Charalampos
  - Valtatzis Alexandros – Konstantinos

- Veloudakis Konstantinos – Stylianos
- Vlachos Konstantinos
- Zacharopoulos Konstantinos
- Zafeirakopoulos Alexandros – Nikolaos

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Dimitris Angelakis
Rank: Associate Professor
Years in rank: 5
Full-time or part-time: On leave from Sep. 1, 2021, to Jan. 31, 2022; full-time from Feb. 1, 2022, to Aug. 31, 2022
Lab affiliation:

A – Teaching

- Undergraduate courses taught
  - FYS 101: Physics (Electromagnetism) (mandatory)
  - FYS 311: Quantum Technology

- Graduate courses taught
  - FYS 602: Quantum Technology

- Labs taught

- Curriculum & course development
  - New courses / labs developed
    - Introduction to quantum computers, MTH 311, cross-listed course, to start September 2022

  - Lecture notes / slides developed

    - Lectures note and slides for "Introduction to quantum computers" MTH 311/MTH 611

  - Authored textbooks

B – Publications

- Publications in refereed journals

  - Submitted: those published/appeared (see below)

    - Efficiently Extracting Multi-Point Correlations of a Floquet Thermalized System. Yong-Guang Zheng, Wei-Yong Zhang, Ying-Chao Shen, An Luo, Ying Liu, Ming-Gen He, Hao-Ran Zhang, Wan Lin, Han-Yi Wang, Zi-Hang Zhu, Ming-Cheng Chen,

Chao-Yang Lu, Supanut Thanasilp, Dimitris G. **Angelakis***, Zhen-Sheng Yuan, Jian-Wei Pan ***arXiv:2210.08556***

- **Computing Electronic Correlation Energies using Linear Depth Quantum Circuits** Chong Hian Chee, Adrian M. Mak, Daniel Leykam, Dimitris G. **Angelakis*** arXiv:2207.03949
- **Topological data analysis and machine learning (**invited review) Daniel Leykam, Dimitris G. Angelakis arXiv:2206.15075
- Quantum supremacy in driven quantum many-body systems J. Tangpanitanon, S. Thanasilp, M. A. Lemonde, N. Dangiam, D. G. **Angelakis***

    arxiv.org/2002.11946

- o Published:
    - Fock State-enhanced Expressivity of Quantum Machine Learning Models
      B. Y. Gan, D. Leykam, D. G. **Angelakis*** EPJ Quantum Technol. 9, 16 (2022)
      https://doi.org/10.1140/epjqt/s40507-022-00135-0
    - Angelina Frank, Daniel Leykam, Daria A Smirnova, Dimitris G Angelakis, Alexander Ling, "Boosting Topological Zero Modes Using Elastomer Waveguide Arrays" Optics Letters Vol. 47, Issue 18, pp. 4620-4623 (2022)
    - Yu He, Shiqi Xia, Dimitris G **Angelakis**, Daohong Song, Zhigang Chen, Daniel Leykam, "Persistent homology analysis of a generalized Aubry-Andre-Harper model" Phys. Rev. B 106, 054210 (2022)
    - D Leykam, I Rondon, DG **Angelakis* "**Dark soliton detection using persistent homology**"** Chaos 32, 073133 (2022)
    - Jirawat Tangpanitanon, Chanatip Mangkang, Pradeep Bhadola, Yuichiro Minato, Dimitris **Angelakis**, Thiparat Chotibut, "Explainable Natural Language Processing with Matrix Product States" New Journal of Physics 24 (5), 053032 (2022)
    - M G Stojanovic, S. Gundogdu, D. Leykam, D. G. **Angelakis**, M Stojanović Krasić6, M Stepić A. Maluckov "Nonlinear compact localized modes in flux-dressed octagonal-diamond lattice" Physica Scripta 97, 030006 (2022)
    - D. A. Smirnova, L. A. Smirnov, E. O. Smolina, D. G. **Angelakis**, D. Leykam, **Gradient catastrophe of nonlinear photonic valley-Hall edge pulses** Phys. Rev. Research 3, 043027 (2021)
    - J. Han, D. Leykam, D. G. **Angelakis**, J. Thingna. Quantum transient heat transport in the hyper-parametric oscillator, Physical Review A 104 (5), 052220 (2021)

- Publications in refereed conferences

- Books and edited book chapters

- Patents
  - *GRANTED*
  1.

C – Awards & Distinctions

- Member of **EU Quantum Network Governing Board** for the European Flagship in Quantum Technologies, representing Greece (one scientist per EU country).

- Member of the **Greek National Council for Research Technology and Innovation, the Engineering Sciences sector (**14 members selected from all disciplines)

- **Invited and Keynote talks in international conferences and advanced schools**

  - "Simulating matter with quantum computers", International Symposium on the Physics of Semiconductors and Applications 2022, Korea, Session: Quantum Information and Low Dimensional Systems, July 2022 (invited)

  - "Analog quantum simulation and computation: From condensed matter to quantum supremacy", 28th Summer School "Dynamical Systems and Complexity", Chania, Crete, July 2022 (invited)

  - "Analog quantum computing", Quantum Technology Research Initiative Conference, Thailand, September 2021 (**plenary**-online)

- **Invited colloquia in Universities**

  - "Quantum supremacy with generic analog quantum simulators and applications in condensed matter and machine learning**,"** Physics Department, University of Calgary, February 2022

- **D – Funded Projects**

- Current projects:

  - Ministry of Education, Greece, Funding for Greek-Russia Bilateral Collaboration in Quantum Technologies. Participating PI with budget 56K Euros, total proposal budget 496K Euros
  - **HORIZON-CL4-2021-DIGITAL-EMERGING-02 Project: 101080085 — QCFD HORIZON-CL4-2021-DIGITAL-EMERGING-02-10 (2023-2028) —** Strengthening the quantum software ecosystem for quantum computing platforms (RIA). Grant budget 5 million Euros, held in ECE TUC (TUC budget 900.000 Euros)

- Project proposals submitted:

E – Professional service

- Associate Editor duties
  - Member of the editorial board of European Physical Journal: Quantum Technology, Springer, since 2014
  - Member of the editorial board of Advanced Quantum Technology, Wiley, since 2018

- Society Technical Committee duties
  - Member of the Management Committee, the Core group and WG4 deputy leader for the EU COST Action "Nanoscale Quantum Optics", 2014-2018
  - Co-organizer, special session in the World Quantum Day Event, April 14 2022, "From quantum physics to quantum computing" (online)

- Reviewing activities
  - Referee for research proposals submitted to: the EU ERC Starting Grant scheme, the EU ERC Consolidator Grant scheme, the European Young Investigators Award Scheme, the Netherlands Organization for Scientific Research, Swiss Research Council, Polish Research Council, Austrian Research Council, the FET open Proactive Call H2020

F – Service to the School and the University

- School responsibilities
  - Member of the ECE School Executive Committee
  - Member of the TUC ECE outreach and webpage committee since 1/2022
  - Editor of the English version TUC ECE Undergraduate Student Guide 2022

- University responsibilities
  - Participation in TUC Open Day
  - Participation in Science Day for primary school students

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students completed (supervisor)

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Leonidas Ioannis (M.Sc.)

  - Ph.D. and M.Sc. Degrees completed (committee member)

  - Ph.D. and M.Sc. Degrees in progress (committee member)
    - Bassford Michalis – Dimitris (Ph.D.)

- Undergraduate students supervised

- Diploma theses completed (supervisor)

- Diploma theses completed (committee member)
    - Leonidas Ioannis
    - Politis Alexandros – Myron
    - Symeonakis Aristotelis
    - Tsiaousis Christos

- Diploma theses supervised (in progress, active)
    - Kastellakis Antonios
    - Michalopoulos Christos
    - Moraitis Ioannis

- Diploma theses in progress (committee member)
    - Komninos Dimitrios

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Daphne Manoussaki
Rank: Assistant Professor
Years in rank: 16
Full-time or part-time: Full-time

A – Teaching

- Undergraduate courses taught

    o MATH 101: Calculus of One Variable
    o MATH 103: Calculus of Several Variables
    o MATH 212: Mathematical Biology

- Labs taught
    o MATH 101 Calculus of One Variable lab

D – Funded Projects

- Current projects:
    o "Pressure measurements in the endolymphatic sac", funded as an NIDCD intramural research project

E – Professional service

- Society Technical Committee duties

- Conference Technical Program Committee service
    o HIAS Inaugural Symposium, Eugenides Foundation, July 8, 2022: Coordinator of session on Engineering and Science Education.

F – Service to the School and the University

- School responsibilities
    o Mentor / coordinator for postdoctoral lecturers on annual contracts.

G – Advising

- Undergraduate students supervised

    - Diploma theses
        - Hadjinikolaou Michail (originally as supervisor, now as co-supervisor with Assoc. Prof. V. Samoladas)

        - Intas Nicolaos (committee member)

Technical University of Crete

School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Minos Petrakis
Rank: Associate Professor
Years in rank: 6,5
Full-time or part-time: Full-time
Lab affiliation:

A – Teaching

- Undergraduate courses taught

    o MATH 104: Elements of Mathematics (mandatory)
    o MATH 204: Probability and Statistics
    o MATH 511: Elements of Mathematical Analysis

- Graduate courses taught

    o MATH 606: Elements of Mathematical Analysis
    o MATH 611: Measure Theory

- Labs taught

- Curriculum & course development
    o New courses / labs developed
    o Lecture notes / slides developed
    o Authored textbooks

B – Publications

- Publications in refereed journals

    o Submitted: those published/appeared (see below)
    o Accepted:
    o Published:

- Publications in refereed conferences
    o Submitted: those published/appeared (see below)
    o Accepted:
    o Published:

- Books and edited book chapters

- Patents
  - GRANTED
  1.

C – Awards & Distinctions

D – Funded Projects

- Current projects:
- Project proposals submitted:

E – Professional service

- Associate Editor duties:
- Society Technical Committee duties:
- Conference Technical Program Committee service:
- Conference Organization (specify role):
- Reviewing activities:

F – Service to the School and the University

- School responsibilities:
- University / Other responsibilities:

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students completed (supervisor)

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Dimitris Stavroulakis

  - Ph.D. and M.Sc. Degrees completed (committee member)

  - Ph.D. and M.Sc. Degrees in progress (committee member)

- Undergraduate students supervised

  - Diploma theses completed (supervisor)
    - Androutsos Anastasios
    - Michalopoulos Ioannis

  - Diploma theses completed (committee member)

- o Diploma theses supervised (in progress, active)
    - Kyriacou Charalampos
    - Vounatsos Vasilios
    - Skaravelos Christoforos

- o Diploma theses in progress (committee member)

Technical University of Crete

School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Christodoulakis Stavros
Rank: Emeritus Professor

Research Team
- Emeritus professor Christodoulakis Stavros
- Laboratory teaching staff Anestis Giorgos
- Laboratory teaching staff Arapi Polixeni
- Laboratory teaching staff Gioldasis Nektarios
- Laboratory teaching staff Maragkoudakis Ioannis
- Laboratory teaching staff Moumoutzis Nektarios
- Laboratory teaching staff. Pappas Nikos
- Laboratory teaching staff. Kazasis Fotis

B – Publications

- Publications in refereed journals

  - Published:
    - **Moumoutzis**, N., Sifakis, Y., **Christodoulakis**, S., Paneva-Marinova, D., Pavolva, L.: "Performative Framework and Case Study for Technology-Enhanced Learning Communities." Информатика и автоматизация 20.4 (2021): 905-939

- Publications in refereed conferences

  - Submitted: those published/appeared (see below)
    - **Georgios Anestis, Nektarios Gioldasis**, Stefanos Karasavvidis, **Stavros Christodoulakis** "A Formal Language for Describing and Executing Location-based Pervasive Games", IEEE international Conference on Pervasive Computing and Communications, Pisa, Italy, March 2022

  - Published:
    - **Moumoutzis**, N., Christoulakis, M., Xanthaki, C., **Maragkoudakis**, Y., **Christodoulakis**, S., Paneva-Marinova, D., Pavlova, L., eShadow+: "Mixed Reality Storytelling Inspired by Traditional Shadow Theatre." 2022 COMPSAC Conference on

Computers, Software, and Applications in an Uncertain World, Turin, Italy.

- **Moumoutzis**, N., Boukeas, G., Vassilakis, V., Xanthaki, C., **Pappas**, N.: "py4hs: A Computer Science Teacher Training Programme Promoting Python Code Clubs." In Special Session: "Let them Innovate: Developing Digital Competencies for Mobile STEAM Learning and Teaching by Utilising Immersive and Adaptive Digital Technology (DigiCompImmersive)" of the IMCL2021 - International Conference on Interactive Mobile Communication Technologies and Learning, Thessaloniki, Greece, 4-5 November 2021.
- **Moumoutzis**, N., Xanthaki, C., Perrakis, S., Manousakas, M., Pavlova, L.: "Promoting Python Code Clubs in Greece: A Teacher Training Program and a Case Study." DiPP 2021 Conference on Digital Presentation and Preservation of Cultural and Scientific Heritage, Sofia, Bulgaria: Institute of Mathematics and Informatics – BAS, 2021, pp. 187-202, ISSN 1314-4006 (Print), eISSN 2535-0366 (Online).
- Giannaraki, M., **Moumoutzis**, N., Papatzanis, Y., Kourkoutas, E., Mania, K.: "A 3D Rhythm-based Serious Game for Collaboration Improvement of Children with Attention Deficit Hyperactivity Disorder (ADHD)." In 2021 IEEE Global Engineering Education Conference (EDUCON). 21-23 April 2021, Vienna, Austria.
- **Moumoutzis**, N., Rigas, N., A., Xanthaki, Ch., **Maragkoudakis**, Y., **Christodoulakis**, S., Paneva-Marinova, D., Pavlova, L.: "Using the PerFECt Framework to Invent Playful Learning Activities for Exploring the Binary System." In 2021 IEEE Global Engineering Education Conference (EDUCON). 21-23 April 2021, Vienna, Austria.
- Misthou, S., **Moumoutzis**, N., Loukatos, D. "Coding Club: a K-12 good practice for a STEM learning community." In 2021 IEEE Global Engineering Education Conference (EDUCON). 21-23 April 2021, Vienna, Austria.
- Lameras, P., **Moumoutzis**, N.: "Towards the Development of a Digital Competency Framework for Digital Teaching and Learning." In 2021 IEEE Global Engineering Education Conference (EDUCON). 21-23 April 2021, Vienna, Austria.
- **Moumoutzis**, N., Rigas, N.A., Xanthaki, C., **Maragkoudakis**, I., **Christodoulakis**, S., Paneva-Marinova, D., Pavlova. L.: "The Design of a Serious Game to Enable the Exploration of the Binary System." In Special Session: "Let them Innovate: Developing Digital Competencies for Mobile STEAM Learning and Teaching by Utilising Immersive and Adaptive Digital Technology (DigiCompImmersive)" of the IMCL2021 - International Conference on Interactive Mobile Communication Technologies and Learning, Thessaloniki, Greece, 4-5 November 2021.
- **Moumoutzis**, N., Xanthaki, C., **Maragkoudakis**, I., **Christodoulakis**, S., Paneva-Marinova, D., Pavlova. L., Lameras, P., Misthou, S., Kalmpourtzis, G.: "Cooking STEAM: A Case Study on Establishing a STEAM Learning Community using a Performative Framework and Cooking." In Special Session: "Let

them Innovate: Developing Digital Competencies for Mobile STEAM Learning and Teaching by Utilising Immersive and Adaptive Digital Technology (DigiCompImmersive)" of the IMCL2021 - International Conference on Interactive Mobile Communication Technologies and Learning, Thessaloniki, Greece, 4-5 November 2021. **Moumoutzis**, N., Koukis, A., Xanthaki, C., Christoulakis, M., **Maragkoudakis**, I., **Christodoulakis**, S., Paneva-Marinova, D., Pavlova. L.: "EPuppet: A Mobile App to Extend a Digital Storytelling Platform with New Capabilities." In Special Session: "Let them Innovate: Developing Digital Competencies for Mobile STEAM Learning and Teaching by Utilising Immersive and Adaptive Digital Technology (DigiCompImmersive)" of the IMCL2021 - International Conference on Interactive Mobile Communication Technologies and Learning, Thessaloniki, Greece, 4-5 November 2021. **Moumoutzis**, N., **Pappas**, N., Xanthaki, C., Perrakis, S., **Maragkoudakis**, Y., **Christodoulakis**, S., Paneva-Marinova, D.: "Coursevo: A Multimedia Online Learning Platform to Support Onlife Communities and its Extension with Gamification Facilities." DiPP 2021 Conference on Digital Presentation and Preservation of Cultural and Scientific Heritage, Sofia, Bulgaria: Institute of Mathematics and Informatics – BAS, 2021, pp. 159-174, ISSN 1314-4006 (Print), eISSN 2535-0366 (Online).

- Books and edited book chapters

  - Published

    - **Moumoutzis**, N., Paneva-Marinova, D., Pavlova, L. Onlife Drama: "Towards a Reference Framework for Hyper-Connected Activity." In (Ed.), Mind and Matter - Challenges and Opportunities in Cognitive Semiotics and Aesthetics, IntechOpen, 2022, pp. 109-126, Print ISBN: 978-1-83969-935-1, Online ISBN: 978-1-83969-936-8, https://doi.org/10.5772/intechopen.100238 Available online at: https://www.intechopen.com/online-first/78763 (Open Access)
    - Hatzigianni, M., Gregoriadis, A., **Moumoutzis**, N., Christoulakis, M., Alexiou, V.: "Integrating Design Thinking, Digital Technologies and the Arts to Explore Peace, War and Social Justice Concepts with Young Children." Embedding STEAM in Early Childhood Education and Care. Palgrave Macmillan, Cham, 2021. 21-40.

- Patents
  - *GRANTED*
  1.

C – Awards & Distinctions

D – Funded Projects

- Current projects:

  - **[G4M]** «Ανάπτυξη Πλατφόρμας Δημιουργίας και Αναπαραγωγής Ψηφιακών Παιχνιδιών για την Προώθηση Προϊόντων και Υπηρεσιών»
    Budget: € 198.786,27
    Duration: 15/3/2019 - 14/3/2022
    Project Type: ΕΣΠΑ
  - **[MILAN]** «Multifunctional Innovative Learning Assisting Network for VET in Advanced Manufacturing»
    Budget: € 77.765,00
    Duration: 1/11/2018 - 31/10/2021
    Project Type: ERASMUS+
  - **[STSP]** «Ψηφιακή Πλατφόρμα Χωροχρονικής Διαμεσικής Αφήγησης Ιστορικών και Πολιτιστικών Γεγονότων για την Προώθηση Προϊόντων και Υπηρεσιών ΜμΕ»
    Budget: € 220.700
    Duration: 23/4/2020 - 22/4/2023
    Project Type: ΕΣΠΑ
  - **[TIM]** «Theatre in Mathematics»
    Budget: € 64.159,00
    Duration: 1/9/2018 - 31/12/2021
    Project Type: ERASMUS+
  - **[TI4]** «Technology for industry 4 for teachers and trainers of vocational education»
    Budget: € 42.100
    Duration: 1/10/2019 - 31/12/2021
    Project Type: ERASMUS+
    [GAME-IT] «Παιγνιοποιημένη διαδραστική κατάρτιση για την προετοιμασία μειονεκτούντων μαθητών για διεθνή κινητικότητα επαγγελματικής κατάρτισης στο τομέα του τουρισμού και της φιλοξενίας»
    Budget: € 27.952
    Duration: 1/12/2020 - 30/11/2022
    Project Type: ERASMUS+
  - **[MAKERS]** «Maker schools: Enhancing Student Creativity and STEM Engagement by Integrating 3D Design and Programming into Secondary School Learning»
    Budget: € 57.560
    Duration: 1/12/2020 - 31/5/2023
    Project Type: ERASMUS+

  - **[E-Coach]** «Towards e-coaching, the first step to build trust with a digital coach»
    Budget: € 53.397
    Duration: 1/3/2021 - 28/02/2023
    Project Type: ERASMUS+
  - **[m2-cm]** «Maths Music and Creative Movement»
    Budget: € 59.495
    Duration: 1/11/2021 - 30/04/2024

Project Type: ERASMUS+

- Project proposals submitted:

  - **[Muses of Europe at School]** «Μούσες της Ευρώπης στο Σχολείο / Muses of Europe at School»
    Budget: € 40.000
    Duration: Proposal not selected for funding
    Project Type: ERASMUS+
  - **[GREEN GOOSE GAME]** «Σκέψου κριτικά. Παίξε το παιχνίδι. / Think critically. Play the game»
    Budget: € 60.000
    Duration: Proposal not selected for funding
    Project Type: ERASMUS+

E – Professional service

F – Service to the School and the University

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Kalokyri Varvara (M.Sc.)
    - Pitsiladis Andreas (M.Sc)
  - Diploma theses supervised (in progress, active)
    - Thermos Koutsouris

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2021, to Aug. 31, 2022

Name: Kostas Kalaitzakis
Rank: Emeritus Professor

B – Publications

- Publications in refereed journals

    o Published:

    ▪ Kanellos F., Kalaitzakis K., Psarras I., Katsigiannis Y., "Efficient and Robust Power and Energy Management for Large Clusters of Plug-In Electric Vehicles and Distribution Networks", IET Energy Systems Integration, http://doi.org/10.1049/esi2.12070, 2022, pp. 1 16.

F – Service to the School and the University

- University responsibilities
    o Emeritus Professor

G – Advising

- Active graduate students supervised
    o Ph.D. and M.Sc. Degrees in progress (committee member)

    ▪ Blazakis Konstantinos (Ph.D.)
    ▪ Nikolaou Aristides (Ph.D.)
    ▪ Tsapras Athanasios (Ph.D.)
    ▪ Kladou Anastasia (M.Sc.)
    ▪ Kostopoulos Konstantinos (M.Sc.)
    ▪ Peponakis Emmanuel (M.Sc.)
    ▪ Viskadouraki Evaggelia (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (committee member)
    - Charalampous Ioulia
    - Nichoritis Athanasios
    - Psarakis Ioannis
    - Vasilakopoulos Ioannis

  - Diploma theses supervised (in progress, active)
    - Bitzanakis Iosif
    - Saoulis Lampros

  - Diploma theses in progress (committee member)
    - Maragkoudakis Antonios – Emmanuel
    - Piniaras Dimitrios