TECHNICAL UNIVERSITY OF CRETE

School
of Electrical
and Computer
Engineering

Annual Activity Report

Sep 2020 – Aug 2021

Chania 2021

Key Statistics for Sep. 2020 – Aug. 2021

<u>Total statistics</u>

Journals Published: 68

Conferences Published: 67

Book Chapters: 9

Patents: 6

Diploma thesis: 101

MSc Thesis: 9

PhD Thesis: 2

Projects: 84

<u>Average statistics (per faculty)</u>

Journals Published: 2.62

Conferences Published: 2.58

Book Chapters: 0.35

Patents: 0.23

Diploma thesis: 3.88

MSc Thesis: 0.35

PhD Thesis: 0.08

Projects: 3.23

Faculty Members

Computer Science Division

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

Electronics and Computer Architecture Division

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

Systems Division

- Bekiaris-Lymperis Nikolaos, Assistant Professor

Telecommunications Division

- Bletsas Aggelos, Professor
- Digalakis Vassilios, Professor - on leave
- Hristopulos Dionissios, Professor
- Karystinos George, Professor
- Liavas Athanasios, Professor
- Paterakis Michael, Professor
- Zervakis Michalis, Professor

Faculty in the Sciences

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

Emeritus Professor

- Christodoulakis Stavros

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Georgios Chalkiadakis
Rank: Associate Professor
Years in rank: 5.5
Division: Computer Science
Lab affiliation: Intelligent Systems Laboratory

A – Teaching

- Undergraduate courses taught
    - COMP 302: Design and Development of Information Systems (mandatory)
    - COMP 512: Multi-agent Systems
    - COMP 417: Artificial Intelligence

- Graduate courses taught
    - COMP 601: Decision Making and Learning in Multiagent Worlds

- Curriculum & course development
    - Updated course material/slides for all aforementioned courses taught

B – Publications

- Editorships
    1. Nick Bassileiades, Georgios Chalkiadakis (editors): ***Advances in Multi-Agent Systems Research: EUMAS 2020 Extended Selected Papers.*** *Springer Nature Computer Science journal, A Topical Collection, 2021.* ISSN 2662-995X (Print) 2661-8907 (Online) https://link.springer.com/journal/42979/topicalCollection/AC_c77867426fdcbdf19ed9f2334fb5b8fc
    2. Nick Bassileiades, Georgios Chalkiadakis, Dave de Jonge (editors): ***Proceedings of EUMAS-AT 2020: 17th European Conference on Multi-Agent Systems and 7th International Conference on Agreement Technologies.*** *LNCS/LNAI Volume Number 12520, Springer,* 2020. ISBN 978-3-03066412-1

- Publications in refereed journals
    1. Filippo Bistaffa, Georgios Chalkiadakis, and Alessandro Farinelli: **Efficient Coalition Structure Generation via Approximately Equivalent Induced Subgraph Games.** *IEEE Transactions on Cybernetics, 2021.* DOI: 10.1109/TCYB.2020.3040622
    2. Athanasios Aris Panagopoulos, Filippos Christianos, Michail Katsigiannis, Konstantinos Mykoniatis, Marco Pritoni, Orestis P. Panagopoulos, Therese Peffer, Georgios Chalkiadakis, David E. Culler, Nicholas R. Jennings, and Timothy Lipman: **A Low-complexity Non-intrusive Approach to predict the Energy Demand of Buildings over Short-term Horizons.** *Advances in Building Energy Research (ABER), 2020.* doi: 10.1080/17512549.2020.1835712

- Publications in refereed conferences
    1. A. Vogiatzis, G. Chalkiadakis, K. Moirogiorgou, G. Livanos, M. Papadogiorgaki and M. Zervakis: **Dual Branch CNN for the Identification of Recyclable Materials.** In Proc. of the 2021 IEEE International Conference on Imaging Systems and Techniques (**IST-2021**), A Virtual Conference - Online, August 2021. **Best Student Paper Award winner**
    2. A. Vogiatzis, G. Chalkiadakis, K. Moirogiorgou, and M. Zervakis: **A Novel One-vs-Rest Classification Framework for Mutually Supported Decisions by Independent Parallel Classifiers.** In Proc. of the 2021 IEEE International Conference on Imaging Systems and Techniques (**IST-2021**), A Virtual Conference - Online, August 2021.
    3. S. Orfanoudakis, S. Kontos, Charilaos Akasiadis and G. Chalkiadakis: **Aiming for Half Gets You to the Top.** In Proc. of the 18th European Conference on Multi-Agent Systems (**EUMAS-2021**), pp. 144-159, A Virtual Conference - Online, June 2021.
    4. D. Troullinos, G. Chalkiadakis, I. Papamichail and M. Papageorgiou: **Collaborative Multiagent Decision-Making for Lane-Free Autonomous Driving**. In Proc. of the 20th International Conference on Autonomous Agents and Multiagent Systems (**AAMAS-2021**), pp. 1335-1343, A Virtual Conference - Online, May 2021.
    5. R. Beal, G. Chalkiadakis, T. Norman and S. D. Ramchurn: **Optimizing Long-Term Outcomes using Real-World Fluent Objectives: An Application to Football**. In Proc. of the 220th International Conference on Autonomous Agents and Multiagent Systems (**AAMAS-2021**), pp. 196-204, A Virtual Conference - Online, May 2021.
    6. E. Streviniotis, A. Georgara, and G. Chalkiadakis: **A Succinct Representation Scheme for Cooperative Games under Uncertainty**. In Proc. of the 20th Int. Conf. on Autonomous Agents and Multiagent Systems (**AAMAS-2021**), pp. 1661-1663, A Virtual Conference - Online, May 2021.
    7. A. Georgara and G. Chalkiadakis: **Hedonic Utility Games**. In Proc. of the 11th Hellenic Conference on Artificial Intelligence (**SETN 2020**), pp. 26-33, Athens, Greece, September 2020.
    8. A. Theodoridis and G. Chalkiadakis: **Monte Carlo Tree Search for the Game of Diplomacy**. In Proc. of the 11th Hellenic Conference on

Artificial Intelligence (**SETN 2020**), pp. 16-25, Athens, Greece, September 2020.

C – Awards & Distinctions

o ***Best Student Paper Award*** at the 2021 IEEE International Conference on Imaging Systems and Techniques (**IST-2021**), for paper: **Dual Branch CNN for the Identification of Recyclable Materials.** Co-authored with own student Antonios Vogiatzis (first author), and colleagues K. Moirogiorgou, G. Livanos, M. Papadogiorgaki and M. Zervakis.

o ***First Prize at an International Competition* (at the PowerTAC-2020 international automated power trading competition).** Georgios led a group of TUC students as the "manager" of the "TUC-TAC" team representing TUC. Our agent, TUC-TAC, finished *at the top* in the PowerTAC finals, and was declared *the champion* of the PowerTAC-2020 competition. Award ceremony took place at the Policy, Awareness, Sustainability and Systems (PASS-2020) workshop (Nov 2020).

o ***Invited Tutorial*: "From Game Theory to AI in Games"**, at the 11th Hellenic Conference on Artificial Intelligence (**SETN-2020)**, A virtual (online) conference, September 2020. *Co-tutored with: Georgios Yannakakis.*

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 "PISMA" ("Automating Pistachio Canopy Temperature Identification: A Machine Learning Approach").** A research project focusing on developing novel image recognition and machine learning techniques for precision irrigation scheduling. The project was carried out by Georgios' team at the School of ECE-TUC, while subcontracting to California State University, Fresno Foundation, USA. **Georgios' role:** *Georgios was the Principal Investigator for the Technical University of Crete team.* **Duration: 2020-2021**
    - **Project "TrafficFluid".** An ERC Advanced Grant project 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**

- o **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**
- o **Project "CO3" ("Digital Disruptive Technologies to Co-create, Co-produce and Co-manage Open Public Services along with Citizens").** A <u>Horizon 2020 RIA</u> project that was accepted under the "H2020-Socioeconomic and cultural transformations in the context of the fourth industrial revolution" call. **Georgios' role:** *Georgios is a member of the participating "Open Lab Athens" research team.* **Duration: 2019-2021**
- o **Project "gE.CO Living Lab" ("Generative European Commons Living Lab").** A <u>Horizon 2020 CSA project</u> that was accepted under the "H2020-Socioeconomic and cultural transformations in the context of the fourth industrial revolution" call. **Georgios' role:** *Georgios is a member of the participating "Open Lab Athens" research team.* **Duration: 2019-2021**

E – Professional service

- Society Technical Committee duties

  - o ***Chair*** of the **Board of Directors** of the **European Association for Multi-Agent Systems (EURAMAS)**

- Conference <u>*Senior*</u> Technical Program Committee service
  - o The 30th International Joint Conference on Artificial Intelligence, A Virtual Conference, August 2021 (**IJCAI-2021**)
  - o The 35rd AAAI Conference on Artificial Intelligence, A Virtual Conference, February 2021 (**AAAI-2021**)
  - o The 29th International Joint Conference on Artificial Intelligence, Yokohama, Japan – held virtually in January 2021 (**IJCAI-2020**)

- Reviewing activities
  - o Reviewer for the conferences I was a Program Committee member at (mentioned above)
  - o Reviewer for several journals; a subset of the following:
    1. The "International Journal of Game Theory" (IJGT)
    2. The "International Game Theory Review" journal (IGTR)
    3. The "Artificial Intelligence" journal (AIJ)
    4. The "Journal of Artificial Intelligence Research" (JAIR)
    5. The "Autonomous Agents and Multi-Agent Systems" journal (JAAMAS)
    6. The "Journal of Machine Learning Research" (JMLR)
    7. The "IEEE Intelligent Systems" journal
    8. The "Artificial Intelligence Review" journal (AIRE)
    9. The journal "IEEE Transactions on Systems, Man and Cybernetics, Part A"

10.   The journal "IEEE Transactions on Systems, Man and Cybernetics, Part B"
11.   The journal "IEEE Transactions on Systems, Man and Cybernetics, Part C"
12.   The "ACM Transactions on Autonomous and Adaptive Systems" journal
13.   The "Advances in Artificial Intelligence" journal
14.   The "International Journal on Artificial Intelligence Tools" (IJAIT)
15.   The "Journal of the Brazilian Computer Society"
16.   The "Energy and Buildings" journal
17.   The "Transportation Research Part C" journal
18.   The "Transactions on Intelligent Transportation Systems" journal
19.   The "Frontiers in Sustainable Cities" journal
       - *review editor for the "Smart Technologies and Cities" section*

F – Service to the School and the University

- University-level responsibilities
  - Member of the Committee for specifying a Code of Rules for the Conduction of Postgraduate Research at the Technical University of Crete

G – Advising

- Active graduate students supervised

  - Ph.D. and M.Sc. theses in progress (supervisor)
    1. Troullinos Dimitrios (Ph.D.) [co-supervised with M. Papageorgiou]
    2. Tripolitakis Evaggelos (Ph.D.)
    3. Kydonakis Ares (M.Sc.)
    4. Antonios Vogiatzis (M.Sc.)
    5. Trigkas Nikolaos (M.Sc.)
    6. Streviniotis Errikos (M.Sc.)
    7. Ziogas Ioannis-Panagiotis (M.Sc.)
    8. Orfanoudakis Stavros (M.Sc.)

- Undergraduate students supervised

  - Diploma theses (MEng level) completed (supervisor)
    1. Chanialakis Theofilos
    2. Streviniotis Errikos
    3. Plataniotis Stergios
    4. Voloudakis Konstantinos
    5. Orfanoudakis Stavros

- Diploma theses (MEng level) in progress (supervisor)
    1. 15 supervised students' theses were in progress during this period

- Committee member in Diploma theses in progress or completed
    1. 20 students (approximate number)

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Antonios Deligiannakis
Rank: Professor
Years in rank: 1
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Distributed Multimedia Information Systems and Applications (MUSIC)

A – Teaching

- Undergraduate courses taught
  - COMP 302 : Databases (mandatory)
  - COMP 211 : Software Development Tools and Systems Programming

- Graduate courses taught
  - 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)
    - 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: Complex Event Detection and Forecasting over Maritime Data Synopses, PVLDB 2021
- George Stamatakis, Antonis Kontaxakis, Alkis Simitsis, Nikos Giatrakos, Antonios Deligiannakis: SheerMP: Optimized Streaming Analytics-as-a-Service over Multi-site Multi-platform Settings, PVLDB 2021

- Accepted:

- Published:

- Publications in refereed conferences
  - Submitted: those published/appeared (see below)
    - Nikos Giatrakos, Eleni Kougioumtzi, Antonios Kontaxakis, Antonios Deligiannakis, Yannis Kotidis: EasyFlinkCEP: Big Event Data Analytics for Everyone. CIKM 2021
    - Eleni Kougioumtzi, Antonios Kontaxakis, Antonios Deligiannakis, Yannis Kotidis: Towards creating a generalized complex event processing operator using FlinkCEP: architecture & benchmark. DEBS 2021
    - Antonios Kontaxakis, Antonios Deligiannakis, Holger Arndt, Stefan Burkard, Claus-Peter Kettner, Elke Pelikan, Kathleen Noack: Real-time processing of geo-distributed financial data. DEBS 2021
    - Antonios Deligiannakis, Nikos Giatrakos, Yannis Kotidis, Vasilis Samoladas, Alkis Simitsis: Extreme-Scale Interactive Cross-Platform Streaming Analytics - The INFORE Approach. SEA-Data@VLDB 2021
    - 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
    - Vasilis Samoladas, Aris Konidaris, Antonios Deligiannakis: Extreme-Scale Online Machine Learning On Stream Processing Platforms, SIGMOD 2022
    - Alkis Simitsis, Nikos Giatrakos, Antonios Deligiannakis: Modern Optimization Toolkits for Data Management Using Learning Techniques and Novel Architectures, SIGMOD 2021
    -

  - Accepted:
    - Nikos Giatrakos, Eleni Kougioumtzi, Antonios Kontaxakis, Antonios Deligiannakis, Yannis Kotidis: EasyFlinkCEP: Big Event Data Analytics for Everyone. CIKM 2021: 3029-3033
    - Eleni Kougioumtzi, Antonios Kontaxakis, Antonios Deligiannakis, Yannis Kotidis: Towards creating a generalized complex event

processing operator using FlinkCEP: architecture & benchmark. DEBS 2021: 188-189

- ▪ Antonios Kontaxakis, Antonios Deligiannakis, Holger Arndt, Stefan Burkard, Claus-Peter Kettner, Elke Pelikan, Kathleen Noack: Real-time processing of geo-distributed financial data. DEBS 2021: 190-191
- ▪ Antonios Deligiannakis, Nikos Giatrakos, Yannis Kotidis, Vasilis Samoladas, Alkis Simitsis: Extreme-Scale Interactive Cross-Platform Streaming Analytics - The INFORE Approach. SEA-Data@VLDB 2021: 7-13

- o Published:
    - ▪ Nikos Giatrakos, Eleni Kougioumtzi, Antonios Kontaxakis, Antonios Deligiannakis, Yannis Kotidis: EasyFlinkCEP: Big Event Data Analytics for Everyone. CIKM 2021: 3029-3033
    - ▪ Eleni Kougioumtzi, Antonios Kontaxakis, Antonios Deligiannakis, Yannis Kotidis: Towards creating a generalized complex event processing operator using FlinkCEP: architecture & benchmark. DEBS 2021: 188-189
    - ▪ Antonios Kontaxakis, Antonios Deligiannakis, Holger Arndt, Stefan Burkard, Claus-Peter Kettner, Elke Pelikan, Kathleen Noack: Real-time processing of geo-distributed financial data. DEBS 2021: 190-191
    - ▪ Antonios Deligiannakis, Nikos Giatrakos, Yannis Kotidis, Vasilis Samoladas, Alkis Simitsis: Extreme-Scale Interactive Cross-Platform Streaming Analytics - The INFORE Approach. SEA-Data@VLDB 2021: 7-13

- ● 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:

E – Professional service

- • Associate Editor duties

- Society Technical Committee duties

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

- Conference Organization (specify role):

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

F – Service to the School and the University

- School responsibilities
    - Undergraduate students advisor for 6th semester students

- 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)
        - Flouris Ioannis (Ph.D.)
        - Bitsakis Theodoros (M.Sc)

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

    - Ph.D. and M.Sc. Degrees in progress (committee member)
        - Toutoudakis Michail (Ph.D.)
        - Vazaios Evangelos (Ph.D.)
        - Babalis Charalampos (M.Sc.)
        - Drakopoulos Panagiotis (M.Sc.)
        - Kalokyri Varvara (M.Sc.)
        - Kargatzis Dimitrios (M.Sc.)
        - Kasimatis Vasilios (M.Sc.)
        - Mantakos Georgios (M.Sc.)
        - Nydriotis Apostolos (M.Sc.)

- Petrovski Stefan (M.Sc.)
- Thermolia Chriso (M.Sc.)
- Verykokidi Eleni – Angela (M.Sc.)
- Zervoudakis Nikolaos (M.Sc.)

- Undergraduate students supervised
  - Diploma theses in progress
    - Fragkakis Panteleimon
    - Manara Christina
    - Pikionis Petros
    - Katara Sotiria-Maria
    - Tzimos Nikolaos
    - Markodimitrakis Ioannis
    - Meliopoulos Dimitrios
    - Papageorgiou Dimitrios
    - Vasilaki Anastasia
    - Baikousis Ioannis
    - Kalogerakis Stefanos
    - Tsolekas Marios
    - Vittis Vassilios
    - Ntelmpizis Asterios

  - Diploma theses completed (supervisor)
    - Pikionis Petros
    - Katara Sotiria-Maria
    - Baikousis Ioannis
    - Kalogerakis Stefanos
    - Tsolekas Marios
    - Ntelmpizis Asterios

  - Diploma theses in progress (committee member)
    - Margaritis Georgios
    - Christodoulopoulos Dimos

  - Diploma theses completed (committee member)
    - Giannakopoulos Panagiotis
    - Rastsinskagia Karina
    - Mythymakis Michail

Technical University of Crete

School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Minos Garofalakis
Rank: Professor
Years in rank: 12
Full-time or part-time: Part-time *(full-time Director, Information Management Systems Institute (IMSI), ATHENA Research and Innovation Center)*
Division: Computer Science
Lab affiliation: SoftNet – Software Technology and Network Applications Laboratory (Director)

A – Teaching

- Undergraduate courses taught
    - COMP 401: Algorithms and Complexity (mandatory)

- Graduate courses taught
    - COMP 615: Processing and Analyzing Big Data

B – Publications

- Publications in refereed journals

- Publications in refereed conferences

    - Published:

        - Graham Cormode, Minos Garofalakis, and Michael Shekelyan. "Data-Independent Space Partitionings for Summaries", Proceedings of the 40th ACM SIGMOD-SIGACT-SIGART Symposium on Principles of Database Systems (PODS'2021), Xi'an, Shaanxi, China, June 2021.

        - Michael Shekelyan, Anton Dignos, Johann Gamper, and Minos Garofalakis. "Approximating Multidimensional Range Counts with Maximum Error Guarantees", Proceedings of the 37th IEEE

International Conference on Data Engineering (ICDE'2021), Chania, Greece, April 2021.

▪ Nikos Giatrakos, David Arnu, Theodoros Bitsakis, Antonios Deligiannakis, Minos Garofalakis, Ralf Klinkenberg, Aris Konidaris, Antonis Kontaxakis, Yannis Kotidis, Vasilis Samoladas, Alkis Simitsis, George Stamatakis, Fabian Temme, Mate Torok, Edwin Yaqub, Arnau Montagud, Miguel Ponce, Holger Arndt, and Stefan Burkard. "INforE: Interactive Cross-platform Analytics for Everyone" (Demo Paper), Proceedings of the 29th ACM International Conference on Conference on Information and Knowledge Management (CIKM'2020), Online Event, October 2020.   *[** CIKM'2020 Best Demonstration Award ***

C – Awards & Distinctions

▪ **Best Demonstration Award,** *ACM CIKM'2020*

▪ **Invited Speaker:** *"With Big Data Comes Big Responsibility: Towards Private Data Analytics at Scale",* Global Artificial Intelligence Conference (GAITC) (Forum on "Efficient Machine Learning on Complex Big Data"), Hangzhou, China, June 2021.

▪ **Invited Panelist:** Economist Virtual Summit 2021, SSDBM'21, ICCCN'21

D – Funded Projects

E – Professional service

● Conference Organization (specify role)
  ● **General Co-Chair:** IEEE ICDE'21

● Conference Technical Program Committee Service
  ● ACM SIGMOD'21

F – Service to the School and the University

● School – level responsibilities
  o Software Technology and Network Applications Laboratory, *Director*

G – Advising

- Undergraduate students supervised

  - Diploma theses completed (supervisor)

    - Alexandros Tragkas ("Blockchain Support for a Personal Data Marketplace", TUC, June 2021)

    - George Margaritis ("Differentially-Private Data Synthesis using Variational Autoencoders", TUC, July 2021)

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Michail G. Lagoudakis
Rank: Associate Professor
Years in rank: 7
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Intelligent Systems Laboratory

A – Teaching
- Undergraduate courses taught
  - COMP 402: Theory of Computation (mandatory, spring semester)
- 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 conferences
  - Published
    - Dimitrios Chatziparaschis, **Michail G. Lagoudakis**, Panagiotis Partsinevelos, "Aerial and Ground Robot Collaboration for Autonomous Mapping in Search and Rescue Missions," Drones, 4(4) 79, 2020.
    - Vassilios Diakoloukas, Fotios Lygerakis, **Michail G. Lagoudakis**, Margarita Kotti, "Variational Denoising Autoencoders and Least-Squares Policy Iteration for Statistical Dialogue Managers," IEEE Signal Processing Letters 27, 2020, pp. 960–964.
      Presented also at the IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2021) – Journal Presentation Track, Toronto, Canada, June 2021.
    - Christos Kalogerakis, Eftichios Koutroulis, **Michail G. Lagoudakis**, "Global MPPT based on Machine Learning for PV Arrays Operating under Partial Shading Conditions," Applied Sciences, 10(2) 700, 2020.

D – Funded Projects

F – Service to the School and the University
- University responsibilities
  - Vice Rector of Administrative, Academic, and Student Affairs.

G – Advising
- **Completed** theses supervised as **principal advisor:**
  - Diploma Theses Completed
    1. **Dimos Christodoulopoulos**, defended on August 5, 2021
       Development of an Android Application and a Web Application for Fitness Center Customers
    2. **Savvas Chaitidis**, defended on July 30, 2021
       Personalised Platformer- Game Generation via PCGML Algorithms
    3. **Panagiotis Papadimitriou**, defended on April 6, 2021
       Reinforcement Learning for Swing Up and Balancing of Three-Dimensional Humanoid Model
    4. **Ilias Tsichlis**, defended on April 6, 2021
       Deep Learning Techniques for Multispectral Satellite Image Analysis
    5. **Dimitrios Kavroulakis,** defended on December 22, 2020
       Visual Recognition and Writing with the NAO Humanoid Robot
    6. **Alexandros Michail**, defended on December 14, 2020
       Data Analysis Optimization Using Multi-Criteria Decision Analysis and Machine Learning Methods
    7. **Grigorios Ntousakis**, defended on October 14, 2020
       Coarse-Grained Dynamic Analysis of Software Libraries
    8. **Nikolaos Geramanis**, defended on October 14, 2020
       Reinforcement Learning for Autonomous Unmanned Aerial Vehicles
  - MSc Theses Completed
    1. **Dimitrios Chatziparaschis,** defended on November 6, 2020
       Machine Learning for Enhancing Robotic Perception and Control
- **Ph.D., M.Sc. or Diploma theses <u>principal advisor</u>**, <u>in progress</u>:
  - MSc Theses in Progress
    1. **Vasileios Sfakianakis**
       Human Activity Recognition from Drone Aerial Images
    2. **Emmanouil Orfanoudakis**
       Event Recognition in Underwater Robot Team Missions
    3. **Eleftherios Chatzilaris**
       Coordinated Action and Learning in RoboCup
  - Diploma Theses in Progress: **more than 25 students**
- **Ph.D., M.Sc. or Diploma theses <u>committee member</u>**:
  - Completed
    1. **Alexandros Preventis**, defended on October 22, 2020
       CLONE: Cloud ontology editor
    2. Many diploma thesis students
  - In Progress
    Various students

Annual Activity Report Template

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Katerina Mania
Rank: Associate Professor
Years in rank: 8 years 4 months as Assoc. Professor
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Distributed Multimedia Information Systems and Applications (MUSIC)

A – Teaching

- Undergraduate courses taught

  - COMP 101 - Introduction to Computers and Computer Science (Winter 2020, only at the start, afterwards on medical leave because of leg fracture, taken over by Prof. Euripidis Petrakis)
  - COMP 418 - Computer Graphics (Spring 2021)

- Postgraduate courses taught

  - COMP 603 – Visualization and Virtual Reality (Spring 2021)

- Curriculum & course development
  - Updated laboratory exercises and material for COMP 101, COMP 418
  - Updated material for COMP 603

B – Publications

- Publications in refereed journals

- Published

  - Drakopoulos, P., Koulieris, G., Mania, K. (2021). Eye Tracking Interaction on Unmodified Mobile VR Headsets using the Selfie

Camera, in *ACM Transactions on Applied Perception,* 18(3), 11:1-11:20

o   Marinakis, A., Mania, K., Antoniadis, M. (2021) Augmented Reality for CAD-CAM Training featuring 3D Interactive Geometric Transformations. *Computer Aided Design and Applications,* vol. 18, 561-570

o   Kontadakis, G., Chasiouras, D., Proimaki, D., Halkiadakis, M., Fyntikaki, M., & Mania, K. (2020). Gamified platform for rehabilitation after total knee replacement surgery employing low cost and portable inertial measurement sensor node. *Multimedia Tools and Applications*, 79(5), 3161-3188

●   Publications in refereed conferences

●   Published

o   Polychronakis, A., Koulieris, G.A., Mania, K. (2021).
    Emulating Foveated Path Tracing. *ACM Motion, Interaction and Games (AM MIG 2021)*, 10:1-10:9

o   Giannaraki, M., Moumoutzis, N., Papatzanis, G., Kourkoutas, E., Mania, K. (2021). A 3D Rhythm-based Serious Game for Collaboration Improvement of Children with Attention Deficit Hyperactivity Disorder (ADHD). *I*n Proc. *IEEE Global Engineering Education Conference (IEEE EDUCON 2021)*, 1217-1225

o   Daskalogrigorakis, G., Kirakosian, S., Marinakis, A., Nikolidakis, V., Paterakis, I., Antoniadis, A., Mania, K. (2021). G-Code Machina: A Serious Game for G-code and CNC Machine Operation Training. In Proc. *IEEE Global Engineering Education Conference (IEEE EDUCON 2021)*, 1434-1442

o   Mania, K., McNamara, A., Polychronakis, A. (2021). Gaze-aware displays and interaction. Short course, *ACM SIGGRAPH 2021*

o   Spanoudakis, N., Kostis, K., & Mania, K. (2021). WEB-Gorgias-B: Argumentation for all. In Proc. *of 12th Intl conf. on Agents and Artificial Intelligence (ICAART 2021)*, 286-297

o   Kirakosian, S., Daskalogrigorakis, G., Maravelakis, M., Mania, K. (2021). Near-contact Person-to-3D Character Dance Training: Comparing AR and VR for Interactive Entertainment. *IEEE Conference on Games (IEEE CoG 2021)*, 1-5

o   Mania, K, Psalti, A., Lala, D. M., Tsakoumaki, Andreas Polychronakis, Anastasia Rempoulaki, Michael Xinogalos, Emmanuel Maravelakis (2021). Combining 3D Surveying with Archaeological Uncertainty: The Metopes of the Athenian Treasury at Delphi. *IISA 2021,* 1-4

o Daskalogrigorakis, G., McNamara, A., Mania, K. (2021).
Holo-Box: Level-of-Detail Glanceable Interfaces for Augmented Reality.
SIGGRAPH Posters 2021, 13:1-13:2

o Roumeliotis, M., Mania, K. (2021). Development of a Wearable
Embedded System providing Tactile and Kinesthetic Haptics Feedback
for 3D Interactive Applications. *SIGGRAPH ASIA Posters 2021*, 8:1-8:2

o Efraimidis, M., Mania, K. (2020). Wireless Embedded System on a
Glove for Hand Motion Capture and Tactile Feedback in 3D
Environments. *SIGGRAPH Asia Posters 2020*, 8:1-8:2

C – Awards & Distinctions

D – Funded Projects

o Project proposals funded

o **'G4M:** Serious Gaming for Computer Aided Manufacturing', call EYDE-
ETAK 'Research-Create-Innovate GSRT, PI

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

o **3D4DELPHI:** Modelling Archaeological Uncertainty by Combining
Modern 3D Imaging for Scientific Documentation of Cultural Heritage:
Application to the Archaeological Site of Delphi, Greece
call EYDE-ETAK 'Research-Create-Innovate GSRT, 2020-2023, PI

o **VARCITIES:** Visionary Nature-based Actions for health, well-being &
resilience in cities, HORIZON2020, PI and co-ordinator Assoc. Prof.
Denia Kolokotsa, research collaborator

o **ENCITO:** Effects of climate change in the old city of Chania, Latsis
Foundation, 2020-2021, PI Dr Lemonia Ragia, Research collaborator

o **AccelNet:** Collaborative Research: An International Network of
Networks for Wellbeing in the Built Environment (IN2WIBE), NSF, PI
Prof. Panos Parthenios, research collaborator

E – Professional service

- Associate Editor duties

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

- Conference Technical Program Committee service – co-chair

  o IEEE Conference on Games 2020, co-chair of AR/VR program track

- Conference Technical Program Committee service, membership

  o IEEE Virtual Reality 2020 full paper conference track international program committee
  o IEEE Conference on Games 2020
  o ACM Symposium on Applied Perception 2020, 2021
  o [IEEE Int. Conf. in Games and Virtual Worlds for Serious Applications](#) (VSGames), sponsored by IEEE, 2020
  o GALA 2020, 2021 (Games and Learning Alliance Conference)
  o IEEE AIVR 2020 (IEEE International Conference on Artificial Intelligence and Virtual Reality)
  o FDG 2020, Foundations of Digital Games 2020

- Reviewing activities

  o Various international conferences and journals

F – Service to the Department and the School

- School responsibilities

  o Member of Kosmiteia (School Council)
  o Member of the university-wide ERASMUS committee
  o Member of ELKE (Research Committee)
  o Responsible for public relations for the School of ECE, School of ECE presentations to the public (MeeTTUC)
  o Studies' advisor for 1st year studies

G – Advising

- Active graduate students supervised

o Graduate students supervised (completed)

- Panos Drakopoulos 'Immersive Multi-modal Interaction for Complex Virtual Environments ', M.Eng

o Graduate students supervised (in progress, active)

- Andreas Polychronakis 'Photorealistic 3D Reconstructions in Virtual and Augmented Reality', Ph.D
- Adonis Paterakis 'Visualization based on Immersive Displays', MEng
- Grigoris Daskalogrigorakis 'Guidance in Office Work Space employing Augmented Reality', MEng
- 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

o Diploma theses completed (supervisor)

- Giannis Kritikos 'Interactive Documentary in Virtual Reality'
- Algiannaki Maria 'MusicCityX: Real-time 3D Interactive System for the Improvement of Urban Areas based on their Musical Footprint'
- Anastasia Reboulaki 'Visualization of Uncertainty'
- Michalis Methymakis 'An Input Architecture for Hands Interaction for Immersive Virtual Reality Applications based on Mobile Platforms'
- Antonis Danas 'Interactive Implementation of Missions based on Graphics in Unity3D'

o Diploma theses supervised (in progress, active)

- Nikos Mouzakitis 'Interaction based on Gaze employing Eye-Tracking in Augmented Reality
- Dimitris Marinopoulos 'PentAgRam: Collaborative Augmented Reality for Music Composition'
- Georgios Gerodidis 'Development of 3D Animated Graphics in Unity based on Open-Source Motion Capture Data'
- Manolis Stefanakis 'Development of Intuitive Tools for Projection Mapping in the Unreal Engine'
- Gerasimos Danalis ' Augmented Reality for Head Mounted Display for the Visualization of Urban Design'

- Christos Kavalaris '3D Reconstruction of Heritage Sites based on Marker-less Augmented Reality'

o Diploma theses in progress (committee member)
  - Panagiotis Patsoglou
  - Ioannis Markodimitrakis
  - Manuel-Rafael Mparts
  - Gerasimos Stefatos
  - Dimitrios-Marios Nikoloulias

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Euripides G.M. Petrakis
Rank: Professor
Years in rank: 7
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Intelligent Systems Laboratory

A – Teaching

- Undergraduate courses taught
    - COMP 202 : Data Structures and File Structures (mandatory)
    - COMP 518 : Services in the Cloud and the Fog

- Graduate courses taught
    - AIS 602 : Information Data Management

- Labs taught
    - COMP 518 : Services in the Cloud and the Fog
    - COMP 202 : Data Structures and File Structures

- Curriculum & course development
    - New courses / labs developed
        - COMP518: Services in the Cloud and the Fog
        - AIS 605 : Special Topics in Information Systems

    - Lecture notes / slides developed
        - COMP518: Services in the Cloud and the Fog

    - Authored textbooks

B – Publications

- Publications in refereed journals

  - Submitted:
    - Euripides G.M. Petrakis, Apostolos Lazidis, "Publish-Subscribe Approaches for the IoT and the Cloud: Functional and Performance Evaluation of Open-Source Systems", Internet of Things Journal
    - Fotios Bouraimis, Nikolaos Mainas, Aikaterini Karavisileiou, Euripides G.M. Petrakis, Annotated OpenAPI Rest Services Descriptions and Ontology, International Journal on Artificial Intelligence Tools.

  - Accepted:
    - See below

  - Published:
    - **Euripides G.M. Petrakis**, Xenofon Koundourakis, "i*Xen: Secure Service Oriented Architecture and Context Information Management in the Cloud*", International Journal of Ubiquitous Systems and Pervasive Networks (JUSPN), Vol. 14, No 2, pp. 1-10, April 2021.

- Publications in refereed conferences

  - Accepted:
    - See below

  - Published:
    - Aimilios Tzavaras, **Euripides G.M. Petrakis**, "Web of Things Functionality in IoT: A Service Oriented Perspective", 12th IEEE International Conference on Information, Intelligence, Systems and Applications (IEEE IISA 2021), July 12-14, 2021, Chania, Crete, Greece.

    - Panagiotis Giannakopoulos and **Euripides G.M. Petrakis**, "Smilax: Statistical Machine Learning Autoscaler Agent for Apache FLINK", 35th International Conference on Advanced Information Networking and Applications (AINA 2021), Ryerson University, Toronto, Canada, May 12 - 14, 2021.

    - **Euripides G.M. Petrakis**, Ilias Kontochristos and Karina Rastsinskagia, "Fi-SWoT: Secure Federated Service Oriented Architecture for the Semantic Internet of Things", 35th International Conference on Advanced Information Networking and Applications (AINA 2021), Ryerson University, Toronto, Canada, May 12 - 14, 2021.

    - Nikolaos Mainas, Aikaterini Karavasileiou, Fotios Bouraimis and

Euripides G.M. Petrakis, "Instantiating REST Services to the OpenAPI Ontology", Future Information and Communication Conference (FICC 2021), Vancouver, Canada, April 29-30, 2021.

- Alexandros Preventis, **Euripides G.M. Petrakis**, "CLONE: Collaborative Ontology Editor in the Cloud", 12th International Conference on Ambient Systems, Networks and Technologies (ANT), pp. 275-282, March 23 - 26, 2021, Warsaw, Poland.

- Elisavet Kostalia, **Euripides G.M. Petrakis** and Nikolaos Bourbakis, "Evaluating Methods for the Parsing and Understanding of Mathematical Formulas in Technical Documents", 32nd IEEE International Conference on Tools with Artificial Intelligence (ICTAI 2020), Virtual Conference, pp. 407-412, November 9-11, 2020.

- Aikaterini Karavasileiou, Nikolaos Mainas and **Euripides G.M. Petrakis**, "Ontology for OpenAPI REST Services Descriptions", 32nd IEEE International Conference on Tools with Artificial Intelligence (ICTAI 2020), Virtual Conference, pp. 35-40, November 9-11, 2020.

- Christos Karageorgiou Kaneen and **Euripides G.M. Petrakis**, "*Towards evaluating GDPR compliance in IoT applications*", 24th International Conference on Knowledge-Based and Intelligent Information and Engineering Systems (KES 2020), Virtual Conference, September 16-18, 2020.

- Books and edited book chapters

  o **Euripides G.M. Petrakis,** George Myrizakis: "*iHome: Secure Smart Home Management in the Cloud and the Fog*", in Edge Computing for Massive Parallel Processing of IoT Data Streams, Fatos Xhafa, Arun Kumar Sangaiah (Eds). Vol 35: Advances in Parallel Computing, IOS Press, pp. 237-263, 2020.

- Patents

C – Awards & Distinctions
  o In the 2% of the world's top scientists based on their total scientific work according to the Stanford University 2021 report.

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 [Member of the Edtorial Board, Internet of Things Journal (in]Scopus and in WoS Science Citation Index).

- Society Technical Committee duties

  - o **Area Chair** & Program committee**,** 33rd International Conference on Tools with Artificial Intelligence ICTAI 2021, November 1-3, 2021, 1-3 November 2021, Washington D.C., USA
  - o **Track Chair & Session Chair** for the IoT and Cyber Physical Systems Track, International Conference on Advanced Information Networking and Applications (AINA), 2021, 2022.
  - o **Session chair**, International Conference on Advanced Information Networking and Applications (AINA), 2020 in sessions (a) AINA-S20: Services Computing and Data Centers and (b) AINA-S21: Internet of Things Security.
  - o Program Committee (PC) member, International Conference on Advanced Information Networking and Applications (AINA), 2018-2021 (each year).
  - o **IoT Track Chair**, Intern. Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN), 2018-2021 (*each year*).
  - o Program Committee (PC) member, 12th International Conference on Ambient Systems, Networks and Technologies (ANT), 2021.
  - o Program Committee (PC) member, Intern. Symposium on Visual Computing (ISVC), 2005–2021 (*each year*).
  - o Program Committee (PC) member, 19th International Conference on Web Engineering (ICWE), 2019-2020 (*each year*).

- Conference Organization (specify role)
  - **Area Chair** & Program committee**,** 33rd International Conference on Tools with Artificial Intelligence ICTAI 2021, November 1-3, 2021, 1-3 November 2021, Washington D.C., USA

- **Track Chair & Session Chair** for the IoT and Cyber Physical Systems Track, International Conference on Advanced Information Networking and Applications (AINA), 2021, 2022.
- **IoT Track Chair**, Intern. Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN), 2018-2021 (*each year*).

- Reviewing activities
  - Reviewer for Several conferences / 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](#)
  - Research Committee, [Technical University of Crete](#) (TUC), elected from faculty body (2019 – *2020*)
  - 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 supervised (advisor, completed)
    - Mainas Nikolaos

  - Ph.D. and M.Sc. students supervised (advisor, in progress)
    - Preventis Alexandros (M.Sc.)
    - Thermolia Chryso (M.Sc.)
    - Tsakos Konstantinos (M.Sc)
    - Aimilios Tzavaras (M.Sc)

  - Ph.D. and M.Sc. degrees awarded (committee member)

  - Ph.D. and M.Sc. Degrees (committee member)
    - Livanos Georgios (towards Ph.D)
    - Malandrakis Nikolaos (towards Ph.D)
    - Moirogiorgou Konstantia (towards Ph.D)
    - *Michail Alexiou,* Wright State University, OHIO, USA

- Undergraduate students supervised
    - Many

- Diploma theses in progress (supervisor)
    - Many (more than 10)

- Diploma theses completed (supervisor)
    - Ioanna Maria Stergiou
    - Fotios Mpouraimis
    - Apostolos Lazidis
    - Karina Rastsinskagia
    - Ilias Kontochristos
    - Panagiotis Giannakopoulos
    - Christos Karageorgiou Kaneen

- Diploma theses in progress (committee member)
    - Many

- Diploma theses completed (committee member)
    - Many

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Vasilis Samoladas
Rank: Associate Professor
Years in rank: 3 years
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Software Technology and Network Applications Laboratory

A – Teaching

- Undergraduate courses taught
  o COMP 301 : Operating Systems (mandatory)
  o COMP 102 : Object-oriented Programming (mandatory)
  o COMP 420 : Principles of Distributed Software Systems

- Graduate courses taught
  o COMP 607 : Principles of Distributed Software Systems
  (Offered jointly with COMP 420)

- Curriculum & course development
  o COMP 102: new lecture slides for more than 60% of the course, because of change in the syllabus according to the latest curriculum reorganization.

  o New term project developed for the above class, to reflect changes in syllabus

  o COM 420: new set of slides for some lectures, reflecting modern developments.

  o Authored textbooks

B – Publications

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

  - Accepted:
  - Published:

- Publications in refereed conferences
  - Published:
    1. Antonios Deligiannakis, Nikos Giatrakos, Yannis Kotidis, Vasilis Samoladas, Alkis Simitsis: Extreme-Scale Interactive Cross-Platform Streaming Analytics - The INFORE Approach. SEA-Data@VLDB 2021: 7-13 2020
    2. Nikos Giatrakos, David Arnu, Theodoros Bitsakis, Antonios Deligiannakis, Minos N. Garofalakis, Ralf Klinkenberg, Aris Konidaris, Antonis Kontaxakis, Yannis Kotidis, Vasilis Samoladas, Alkis Simitsis, George Stamatakis, Fabian Temme, Mate Torok, Edwin Yaqub, Arnau Montagud, Miguel Ponce de Leon, Holger Arndt, Stefan Burkard: INforE: Interactive Cross-platform Analytics for Everyone. CIKM 2020: 3389-3392.
- Patents
  - *GRANTED*

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - *EPOPTES: European Patent Office Planning Tool Extensible Simulator. 24,800 euro 10-2021 to 6-2022*

E – Professional service

- Conference Technical Program Committee service
  - *KDIR-2020 International Conference on Knowledge Discovery and Information Retrieval*

F – Service to the Department and the School

- Departmental responsibilities

- School – level responsibilities

G – Advising

- Active graduate students supervised

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

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

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

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

- Undergraduate students supervised

  - Diploma theses in progress
    - ΤΣΟΥΡΗΣ ΕΜΜΑΝΟΥΗΛ
    - ΜΠΑΡΑΚΟΣ ΠΑΝΑΓΙΩΤΗΣ
    - ΡΕΒΥΘΗΣ ΚΩΝΣΤΑΝΤΙΝΟΣ
    - ΧΑΤΖΗΝΙΟΚΟΛΑΟΥ ΜΙΧΑΛΗΣ
    - ΚΙΛΙΚΗΣ ΜΙΧΑΛΗΣ
    - ΤΣΙΡΙΒΑΚΟΣ ΓΑΒΡΙΗΛ
    - ΜΠΟΥΤΑΣ ΑΘΑΝΑΣΙΟΣ
    - ΚΟΥΤΡΑ ΠΑΝΑΓΙΩΤΑ
    - ΓΙΑΝΚΟΥΛΙΔΗΣ ΠΑΝΤΕΛΗΣ
    - ΧΕΙΛΟΥΔΑΚΗΣ ΣΠΥΡΟΣ

- o Diploma theses completed (supervisor)
  - ▪ ΚΑΜΠΙΩΤΗ ΣΟΦΙΑ
  - ▪ ΜΠΑΛΑΜΠΑΝΗΣ ΗΛΙΑΣ
  - ▪ ΕΠΟΥΡΕ ΕΝΤΟΥΑΡΝΤ
  - ▪ ΣΕΙΣΑΚΗ ΕΥΤΥΧΙΑ

- o Diploma theses in progress (committee member)

- o Diploma theses completed (committee member)

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Costas Balas
Rank: Professor
Years in rank: 6
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Electronics Laboratory, Director

A – Teaching

- Undergraduate courses taught
    - ACE 204: Electronics I (mandatory)
    - ACE 412: Optoelectronics
    - ACE 513: Biomedical Engineering

- Graduate courses taught
    - ACE 607: Optoelectronics
    (Offered jointly with ACE 412)

- 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:
    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
    - Published:

- Patents
    - Awarded:
      HYBRID SPECTRAL IMAGER, US Patent & Trademark Office, No: US202008579A1, Inventor: **C. Balas**

      HYBRID SPECTRAL IMAGER, International Patent, No: WO2020025987A1, Inventor: **C. Balas**

      "A Hybrid Spectral Imager", Patent Application in South Korea No. 10-2021-7006083, Inventor: **C. Balas**

      "A Hybrid Spectral Imager", Patent Application in China No. 201980065331.4, Inventor: **C. Balas**

C – Awards & Distinctions

Webinar: C.Balas, "Smart, Ultra-wide Band Hyperspectral Imaging for Material Identification: Emerging Applications in the Non-destructive Analysis of Objects of Artistic and Historic Value", Thursday, 11 March 2021, organized by The Cyprus Institute (https://www.cyi.ac.cy/) ,Link: shorturl.at/glxIU

D – Funded Projects

- Current projects:

    - XMMaS-Development of a coherent X-ray multispectral microscopy system (Code: T1EDK-04549 - MIS:5048516), funded by NSRF 2014-2010 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE" (TUC)

- New projects:

    - i-blueCulture - A novel 3D framework providing insuperable and real-time experience within live streaming (Code: T2EDK-03610- MIS: 5074554), funded by NSRF 2014-2010 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE" (TUC)

- Project proposals submitted:

E – Professional service

- Associate Editor duties

- Editorial Board member Journal of Applied Sciences

- 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
  - Director of the Electronics Lab

- School – level responsibilities
  - Chairman of TUCs Innovation House

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)
    - Boras Charalambos (M.Sc.)
    - Chousos Christos (M.Sc.)
    - Rossos Christos (Ph.D.)
    - Tsapras Athanasios (Ph.D.)

  - Ph.D. and M.Sc. degrees awarded (committee member)
    - Kostopoulos Konstantinos (M.Sc.)
    - Gkouvatsos Nikolaos (M.Sc.)
    - Roumeliotis Michail (M.Sc.)
    - Panagiotis Drakopoulos (M.Sc.)

- - Loukas Chevas (M.Sc.)

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

- Undergraduate students supervised

  - o Diploma theses in progress
    - Emmanouilidis Konstantinos
    - Vogiatzis Konstantinos
    - Nikoloulias Dimitrios-Marios
    - Tsiaousis Christos
    - Stefatos Gerasimos
    - Takas Panagiotis

  - o Diploma theses completed (supervisor)
    - Pediaditis Dimitrios
    - Zacharopoulou Iliana
    - Mavrakis Marios
    - Spyridaki Styliani

  - o Diploma theses in progress (committee member)
    - Gegkios Nikolaos
    - Gompaki Efstathia
    - Kokkonas Dimitrios
    - Pappas Nikolaos
    - Mouzakitis Nikolaos

  - o Diploma theses completed (committee member)
    - Polychronakis Andreas
    - Dimitrios Syrigos
    - Michail Roumeliotis
    - Ioulia Charalambous

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Matthias Bucher
Rank: Associate Professor
Years in rank: 7
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Electronics Laboratory

A – Teaching

- Undergraduate courses taught
  - ECE 301 – Electronics II (Fall 2020)
  - ECE 416 – Design of CMOS Analog Integrated Circuits (Fall 2020)

- Graduate courses taught
  - ECE 604 – Special Themes of CMOS Analog Integrated Circuit Design (Spring 2021)

- Labs taught
  - ECE 301 – Electronics II (Fall 2020)
  - ECE 416 – Design of CMOS Analog Integrated Circuits (Fall 2020)

B – Publications

- Publications in refereed journals
  - Submitted:
    -
  - Accepted:
    - N. Makris, **M. Bucher,** L. Chevas, F. Jazaeri, J.-M. Sallese, "Free Carrier Mobility, Series Resistance and Threshold Voltage Extraction in Junction FETs", *IEEE Transactions on Electron Devices.*
  - Published:
    - **M. Bucher,** N. Makris, L. Chevas, "Generalized Constant Current Method to Determine MOSFET Threshold Voltage",

IEEE Transactions on Electron Devices, Vol. 67, No. 11, pp. 4559-4562, Nov. 2020. doi

- N. Makris, **M. Bucher,** L. Chevas, F. Jazaeri, J.-M. Sallese, "Free Carrier Mobility, Series Resistance and Threshold Voltage Extraction in Junction FETs", *IEEE Transactions on Electron Devices*, Vol. 67, No. 11, pp. 4658-4661, Nov. 2020. doi

- Publications in refereed conferences

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:
  - *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:
  - **Erasmus Mundus Joint Master Degree (EMJMD) RADMEP**, 2020. With the support of Erasmus+ Programme of the European Union. 2-year (120 ECTS) European Master in Radiation and its Effects on MicroElectronics and Photonics Technologies, https://master-radmep.org/ The Technical University of Crete is an Associated Member of RADMEP. *Accepted for funding.*

- Development of Electronics Laboratory infrastructure:
  - Waveform Generator, Keysight 33512B, 20 MHz.
  - Europractice annual subscription.
  - Cadence IC & System software.
  - Keysight ADS and IC-CAP software.

E – Professional service

- Conference Technical Programme Committee service

- TPC member, 28th Int. Conf. on Mixed Design of Integrated Circuits and Systems (MIXDES 2021).
- TPC member, 9th Int. Conf. on Modern Circuits and Systems Technologies (MOCAST 2021).
- TPC member, Int. Conf. Micro-Nano 2020.
- 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 admission committee of undergraduate students.
  - Deputy Member of admission committee for postgraduate students.
  - TUC Representant to Europractice Integrated Circuits (IC) Service https://europractice-ic.com/.

G – Advising

- Graduate students supervised
  - Ph.D. theses completed (supervisor):
    -
  - Ph.D. students supervised (supervisor):
    - Nikolaos Makris.
    - Loukas Chevas.
  - Ph.D. students co-supervised:
    -
  - M.Sc. theses completed (supervisor):
    - Loukas Chevas, M.Sc. Thesis, School of ECE, Technical University of Crete, Chania, Greece, July 2021.
    - Alexia Papadopoulou, M.Sc. Thesis, School of ECE, Technical University of Crete, Chania, Greece, June 2021.
  - M.Sc. students supervised (supervisor):
    - Nikolaos Gkouvatsos
    - Maria Papoutsani
    - Loukas Chevas
    - Alexia Papadopoulou
    - Konstantinos Kostopoulos

- Undergraduate students supervised

- o Diploma theses completed (supervisor):
    - Antonios Antonakakis, , Diploma Thesis, School of ECE, Technical University of Crete, Chania, Greece, May 2021.
    - Nikos Gkouvatsos, "Design of a Low-Power, Low-Noise Integrated CMOS Biosignal Amplifier", Diploma Thesis, School of ECE, Technical University of Crete, Chania, Greece, October 2020.
- o Diploma students (supervisor):
    - Nikolaos Gkouvatsos
    - Antonios Antonakakis
    - Dimitrios Piniaras
    - Dimitrios Kokkonas
    - Nikolaos Gegkios
    - Nikolaos Pappas
- o Diploma theses completed (committee member):

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Apostolos Dollas
Rank: Professor
Years in rank: 20
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Microprocessor and Hardware Laboratory

A – Teaching

- Undergraduate courses taught
    - ACE 203 :   Advanced 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 203, 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).

- Curriculum & course development

    - Lecture notes / slides developed
        - Revised the ACE 203 (Advanced Logic Design) class notes which were distributed in preliminary form through the web-based e-learning environment Webcourses.

B – Publications

- Publications in refereed journals

- N. Kyparissas, A. Dollas, Large-scale Cellular Automata on FPGAs: A New Generic Architecture and a Framework, *ACM Transactions on Reconfigurable Technology and Systems (TRETS),* vol. 14, no. 2, Article No. 5, pp. 1-32, December, 2020.

- Publications in refereed conferences (Published)

  - P. Malakonakis, A. Brokalakis, N. Alachiotis, E. Sotiriades, A. Dollas, Exploring Modern FPGA Platforms for Faster Phylogeny Reconstruction with RAxML, *Proceedings of the 20th IEEE International Conference on BioInformatics and BioEngineering*, Virtual Conference, October 26-28, 2020, Cincinnati, Ohio, USA.

- Book Chapters
  - A. Dollas, "Meta-Arduino-ing Microcontroller-Based Cyber Physical System Design", *Heterogenerous Cyber Physical Systems of Systems (HePSOS)*, pp. 11-36, I. Papaefstathiou, A. Hatzopoulos (Eds.), River Publishers, 2020.

C – Awards & Distinctions

- Technical University of Crete Award for Teaching Excellence, 2020.

- Steering Committee member, IEEE/ACM 30th International Symposium on Field Programmable Logic (FPL), Gottenburg, Sweden, Aug. 31st – Sept. 4th, 2020 (virtual conference due to the pandemic).

- Steering Committee Committee member, IEEE/ACM 31th International Symposium on Field Programmable Logic (FPL), Dresden, Germany, Aug. 30-Sept. 3, 2021.

- Invited Speaker, delivered the presentation "Challenges and use cases for hardware co-processors and reconfigurable hardware" in the *Webinar: GPU, TPU, Edge & Co: Wege durch den Hardware-Dschungel für Ihre KI-Anwendung*, HAISEM Laboratory, Deutsche Messe Technology Academy, November 27, 2020.

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

- Participation as a Researcher in Project:
  - Senior Research Associate in the EU H2020 projects EPI_SGA1 and EuroEXA (CARV group, ICS/FORTH), Heraklion, Crete, Greece.

E – Professional service

- Conference Technical Program Committee service
  - Steering Committee and Program Committee member, IEEE/ACM 30th International Symposium on Field Programmable Logic (FPL), Gottenburg, Sweden, Aug. 31st – Sept. 4th (virtual conference due to the pandemic).
  - Steering Committee and Program Committee member, IEEE/ACM 31th International Symposium on Field Programmable Logic (FPL), Dresden, Germany, Aug. 30-Sept. 3, 2021.
  - Program Committee Member, 2020 International Conference on Field Programmable Technology (FPT, IEEE Sponsored), Dec. 9-11, Maui, HI, USA, 2020.
  -

  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 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 1st semester students
  - Member of staff election boards (TUC)

- o Member of faculty election boards at:
  - o the Technical University of Crete (multiple positions)
  - o the National Technical University of Athens
  - o the National Kapodistrian University of Athens
  - o the Aristotelean University of Thessaloniki
  - o the University of Ioannina
  - o the University of Peiraeus
  - o the University of Peloponese (formerly ATEI Peloponese)
- 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 Telecommunication Systems Institute's (ITS) Board of Directors

G – Advising

- Active graduate students supervised

  - 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)
    - Charitopoulos Georgios (Ph.D.)
    - Tsigkanos Antonios (Ph.D. – National Kapodistrian U. of Athens)
    - Mageiropoulos Evangelos (M.Sc. – Dept. of CS – U. of Crete)

  - o Ph.D. and M.Sc. Degrees in progress (committee member)
    - Vatsolakis Charalampos (Ph.D.)
    - Amourgianos Lorentzos-Vasileios (M.Sc.)
    - Morianos Ioannis (M.Sc.)
    - Savvakos Charalampos (M.Sc.)
    - Tsakaneli Stavroula (M.Sc.)
    - Chatzimpyros Emmanouil (M.Sc.)
    - Mitropoulos Charalampos (M.Sc.)

- Undergraduate students supervised (towards unified M.Eng. Degree)
  - o M. Eng. Diploma theses completed (supervisor)
    - Argyriou Maria
    - Ampatzidis Konstantinos
    - Fotakis Tzanis
    - Iliaki Anastasia
    - Kokkinis Iraklis - Taxiarchis
    - Konstantopoulos Konstantinos
    - Kordas Sotiris

- Koutroulakis Efstratios
- Lykos Emmanouil
- Manolis Nikolaos
- Morianos Ioannis
- Skoufis Charalampos
- Theodoris Charalampos
- Zacheilas Theofilos

- M. Eng. Diploma theses in progress (supervisor)
  - Bokalidis Anastasios
  - Charokopos Zisis
  - Chatzakis Michail-Iason
  - Felekis Panagiotis
  - Fleggas Georgios
  - Galanos Georgios
  - Galatianos Georgios
  - Kalliontzis Athanasios
  - Kalomiris Ioannis
  - Makris Ioannis
  - Manesis Athanasios
  - Maragkaki Maria
  - Marinaki Eftihia
  - Metai Edritt
  - Ntafi Eirini
  - Ntounetas Dimitrios
  - Palaiologk Chariton
  - Palatiana Nikoletta
  - Pantzekos Lambros
  - Petrakos Emmanouil
  - Poupakis Alexandros
  - Robogiannakis Emmanouil-Eleftherios
  - Sotiropoulos Antonios
  - Spyridakis Christos
  - Stavgianoudakis Christos
  - Theodoroglaki Ioanna
  - Tzortzaki Christini
  - Vailakis Apostolos

- M. Eng. Diploma theses in progress (committee member)
  - Andronikidis Georgios
  - Androulakis Dimitrios
  - Antonopoulos Alexandros
  - Apostolopoulos Theodoros

- Arkalakis Ioannis
- Athanasiou Vasilios
- Diktopoulos Christos
- Drakoulaki Eleni
- Georgis Polykratis
- Iggilis Anastasia
- Karatsoris Irodotos
- Kargiotakis Georgios
- Katsinelis Konstantinos
- Lefakis Emmanouil
- Lyronis Stavros
- Malefioudakis Benjamin
- Panagidis Giannakis
- Pegkos Athanasios
- Pentafragkas Georgios
- Ropi Mikel
- Tsaousidis Iraklis
- Tsapanou Lampriani
- Vasilakis Georgios
- Vatsithianos Nikolaos
- Vogiatzis Konstantinos
- Zacharioudakis Nikolaos

- Diploma theses completed (committee member)

  - Paspalakis Stavros
  - Pinitas Kosmas

Name: Sotiris Ioannidis
Rank: Associate Professor
Years in rank: 1
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Microprocessor and Hardware Laboratory

A – Teaching

- Undergraduate courses taught
    - HPY312: Computer Organization
    - HPY414: Security of Systems and Services
- Graduate courses taught
    - HPY609: Advanced Computer Architecture
- Labs taught
- Curriculum & course development
    - HPY609: Advanced Computer Architecture

B – Publications

- Publications in refereed journals
    - Published:
        - **"The Green Blockchains of Circular Economy"** Giorgos Hatzivasilis, Sotiris Ioannidis, Kostas Fysarakis, Giorgos Spanoudakis, and Nikos Papadakis, Electronics – Special Issue on Artificial Intelligence Applications in Next Generation Communication Infrastructures Security, MDPI Open Access Journal, vol. 10, issue 16, pp. 1-16, August 2021. (DOI: 10.3390/electronics10162008)
        - **"A Survey on Encrypted Network Traffic, Analysis Applications, Techniques, and Countermeasures"** Eva Papadogiannaki and Sotiris Ioannidis. ACM Computing Surveys, 54(6), July 2021.
        - **"CYRA: A Model-Driven CYber Range Assurance Platform"** Michalis Smyrlis M, Iasonas Somarakis, Giorgos Spanoudakis, Giorgos Hatzivasilis, and Sotiris Ioannidis. In Special Issue on Security management of 5G and IoT ecosystems Applied Sciences, 11(11):5165, 2021.
        - **"Towards a Collection of Security and Privacy Patterns"** Manos Papoutsakis, Konstantinos Fysarakis, George Spanoudakis, Sotiris Ioannidis and Konstantina Koloutsou. In Special Issue on Security management of 5G and IoT ecosystems Applied Sciences, vol. 11, no. 4: 1396, February 2021.

- **"A survey of Twitter research: Data Model, Graph Structure, Sentiment Analysis and Attacks"** Despoina Antonakaki, Sotiris Ioannidis, and Paraskevi Fragopoulou. Expert Systems With Applications (ESWA), Volume 164, February 2021.
- **"Acceleration of Intrusion Detection in Encrypted Network Traffic using Heterogeneous Hardware"** Eva Papadogiannaki and Sotiris Ioannidis. MDPI Sensors, 21(4), February 2021.
- **"SPD-Safe: Secure Administration of Railway CPS and Intelligent Transportation Systems"** George Hatzivasilis, Konstantinos Fysarakis, Sotiris Ioannidis, Ilias Hatzakis, George Vardakis, Nikos Papadakis, and George Spanoudakis. Electronics – Special Issue on Advances in Public Transport Platform for the Development of Sustainability Cities, Open Access Journal, 10(1), pp. 1-26, January, 2021.
- **"The Internet of MetaMaterial Things and Their Software Enablers"** Christos Liaskos, Georgios Pyrialakos, Alexandros Pitilakis, Ageliki Tsioliaridou, Michail Christodoulou, Nikolaos V. Kantartzis, Sotiris Ioannidis, Andreas Pitsillides, and Ian F. Akyildiz. ITU Journal on Future and Evolving Technologies (J-FET), December, 2020.
- **""WARDOG: Awareness detection watchdog for botnet infection on the host device"** George Hatzivasilis, Othonas Soultatos, Panos Chatziadam, Konstantinos Fysarakis, Ioannis Askoxylakis, Sotiris Ioannidis, George Alaxandris, Vasilis Katos, and George Spanoudakis. IEEE Transactions on Sustainable Computing (T-SUSC), 2021.
- **"On Architectural Support for Instruction Set Randomization."** George Christou, Giorgos Vasiliadis, Vassilis Papaefstathiou, Antonis Papadogiannakis, and Sotiris Ioannidis. In ACM Transactions on Architecture and Code Optimization (TACO), 2020.
- **"End-to-end Wireless Path Deployment with Intelligent Surfaces Using Interpretable Neural Networks"** Christos Liaskos, Shuai Nie, Ageliki Tsioliaridou, Andreas Pitsillides, Sotiris Ioannidis, and Ian Akyildiz. In IEEE Transactions on Communications (TCOM), vol. 68, no. 11, November 2020.
- **"Next Generation Connected Materials for Intelligent Energy Propagation in Multiphysics Systems"** Christos Liaskos, Ageliki Tsioliaridou, Sotiris Ioannidis, Andreas Pitsillides, and Ian F. Akyildiz. IEEE Communications Magazine, May 2021.
- **"Accelerating Phylogenetics using FPGAs in the Cloud"** Nikolaos Alachiotis, Andreas Brokalakis, Vasilis Amourgianos, Sotiris Ioannidis, Pavlos Malakonakis, and Tasos Bokalidis. IEEE Micro, Special Issue on FPGA Computing, July-August 2021.
- **"Pairing Circular Economy and the 5G-enabled Internet of Things"** Andreas Miaoudakis, Konstantinos Fysarakis, Nikolaos Petroulakis, Sofia Alexaki, George Alexandirs, Sotiris Ioannidis, George Spanoudakis, Vasilios Katos, and Christos Verikoukis. IEEE Vehicular Technology Magazine (VTM), 2020

- Publications in refereed conferences
  - Published:
    - **"Cybersecurity in the Era of Digital Transformation: The case of Greece"** Leandros Maglaras, George Drivas, Nestoras Chouliaras, Eerke Boiten, Costas Lambrinoudakis, and Sotiris Ioannidis. In Proceedings of the IEEE International Conference on Internet of Things and Intelligent Applications (ITIA), Zhenjiang China, November 2020.
    - **"The Cookie Hunter: Automated Black-box Auditing for Web Authentication and Authorization Flaws"** Kostas Drakonakis, Sotiris Ioannidis, and Jason Polakis. In Proceedings of the ACM/SIGSAC Conference on Computer and Communications Security (CCS), online, November 2020.
    - **"Head(er)Hunter: Fast Intrusion Detection using Packet Metadata Signatures"** Eva Papadogiannaki, Dimitris Deyannis, and Sotiris Ioannidis. In Proceedings of the IEEE International Conference on Computer-Aided Modeling Analysis and Design of Communication Links and Networks (CAMAD), Pisa, Italy, September 2020.
    - **"The Million Dollar Handshake: Secure and Attested Communications in the Cloud"** Nikolaos Chalkiadakis, Dimitris Deyannis, Dimitris Karnikis, Giorgos Vasiliadis, and Sotiris Ioannidis. In Proceedings of the IEEE International Conference on Cloud Computing (CLOUD), Beijing, China, October 2020.
    - **"The THREAT-ARREST cyber ranges platform"** G. Hatzivasilis, S. Ioannidis, M. Smyrlis, G. Spanoudakis, F. Frati, C. Braghin, E. Damiani, H. Koshutanski, G. Tsakirakis, T. Hildebrandt, L. Goeke, S. Pape, O. Blinder, M. Vinov, G. Leftheriotis, M. Kunc, F. Oikonomou, G. Magilo, V. Petrarolo, A. Chieti, and R. Bordianu. In Proceedings of the IEEE CSR Workshop on Cyber Ranges and Security Training (CRST), IEEE, Virtual, Greece, July, 2021.
    - **"On the Use of Programmable Metasurfaces in Vehicular Networks"** Taqwa Saeed, Hamidreza Taghvaee, Ehizogie Emoyon-iredia, Waqar Aziz, Sergi Abadal, Andreas Pitsillides, Vasos Vassiliou, Christos Liaskos, Ageliki Tsioliaridou, Sotiris Ioannidis, Ian F. Akyildiz, Marios Lestas, " In Proceedings of the IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC), Lucca, Italy, September 2021.
    - **"A pattern–driven adaptation in IoTorchestrations to guarantee SPDI properties"** Manos Papoutsakis, Konstantinos Fysarakis, Emmanouil Michalodimitrakis, Eftychia Lakka, Nikolaos Petroulakis, George Spanoudakis, and Sotiris Ioannidis. In Proceedings of the International Workshop on Model-driven Simulation and Training Environments for Cybersecurity (MSTEC), Surrey, UK, September 2020.
      -

- Books and edited book chapters
  - **"Big Data Analytics in the Manufacturing Sector: Guidelines and Lessons Learned through the CRF Case"** Andreas Alexopoulos, Yolanda

Becerra, Omer Boehm, George Bravos, Vasilis Chatzigiannakis, Cesare Cugnasco, Giorgos Demetriou, Iliada Eleftheriou, Spiros Fotis, Gianmarco Genchi, Sotiris Ioannidis, Dusan Jakovetic, Leonidas Kallipolitis, Vlatka Katusic, Evangelia Kavakli, Despina Kopanaki, Christoforos Leventis, Miquel Martínez, Julien Mascolo, Nemanja Milosevic, Enric Pere Pages Montanera, Gerald Ristow, Hernan Ruiz-Ocampo, Rizos Sakellariou, Raül Sirvent, Srdjan Skrbic, Ilias Spais, Giuseppe Danilo Spennacchio, Dusan Stamenkovic, Giorgos Vasiliadis and Michael Vinov. In Ed. Curry et al. (eds) "Technologies and Applications for Big Data Value" Open Access Book, 2021.

● **"Biosensors and Internet of Things in smart healthcare applications: challenges and opportunities"** Maria Pateraki, Kostas Fysarakis, Vaggelis Sakkalis, Giorgos Spanoudakis, Iraklis Varlamis, Michalis Maniadakis, Manolis Lourakis, Sotiris Ioannidis, Nicholas Cummins, Bjorne Schuller, Emmanouil Loutsetis, and Dimitris Koutsouris. In N. Dey et al. (eds) Wearable and Implantable Medical Devices, Series: Advances in ubiquitous sensing applications for healthcare, Elsevier, January 2020.

● Patents

C – Awards & Distinctions

D – Funded Projects

● Current projects:
    ● **"SENTINEL: Bridging the security, privacy, and data protection gap for smaller enterprises in Europe"** Funded by the European Commission (SU-DS-03-2020)
    ● **"SESAME: Secure and Safe Multi-Robot Systems"** Funded by the European Commission (ICT-46-2020)
    ● **"EnerMan: ENERgy-efficient manufacturing system MANagement"** Funded by the European Commission (DT-FOF-09-2020)
    ● **"REWIRE: Cybersecurity Skills Alliance - A New Vision for Europe"** Funded by the European Commission (EAC-A02-2019-SSA)
    ● **"PRINCIPALS: PRogrammable INfrastructure for CounterIng Pugnacious Adversaries on a Large Scale"** Funded by DARPA (BAA Number: HR001120S0026; Technical Area: TA4)
    ● **"IntelIIoT: Intelligence, distributed, human-centered, multi agent systems"** Funded by the European Commission (SU-ICT-56-2020)

    ● **"CYRENE: Certifying the Security and Resilience of Supply Chain Services"** Funded by the European Commission (SU-ICT-02-2020)

    ● **"JCOP: Joint Cybersecurity Operations Platform"** Funded by the European Commission (2020-EU-IA-0219)

    ● **"MARVEL: Multimodal Extreme Scale Data Analytics for Smart Cities Environments"** Funded by the European Commission (ICT-51-2018)

    ● **"C4IIoT: Cyber security 4.0: protecting the Industrial Internet Of Things"** Funded by the European Commission (SU-ICT-01-2018)

- **"BIO-PHOENIX: Biologically Inspired Complex Software System Reconstruction at Near Extinction States"** Funded by the European Commission (MSCA-RISE-2018)
- **"THREAT-ARREST: Cyber Security Threats and Threat Actors Training - Assurance Driven Multi-layer, end-to-end Simulation and Training"** Funded by the European Commission (DS-07-2017)
- **"IDEAL-CITIES: Intelligence-Driven Urban Internet-of-Things Ecosystems for Trustworthy and Circular Smart Cities"** Funded by the European Commission (MSCA-RISE-2017)
- **"PUZZLE: Towards a Sophisticated SIEM Marketplace for Blockchain-based Threat Intelligence and Security-as-a-Service"** Funded by the European Commission (SU-DS03-2019)
- **"AI4HEALTHSEC: A Dynamic and Self-Organized Artificial Swarm Intelligence Solution for Security and Privacy Threats in Healthcare ICT Infrastructures"** Funded by the European Commission (SU-DS05-2019)
- **"HEIR: A secure Healthcare Environment for Informatics Resilience"** Funded by the European Commission (SU-DS05-2019)
- **"ASCAPE: Artificial intelligence Supporting CAncer Patients across Europe"** Funded by the European Commission (SC1-DTH-01-2019)
- **"COLLABS: A COmprehensive cyber-intelligence framework for resilient coLLABorative manufacturing Systems"** Funded by the European Commission (ICT-08-2019
- **"AERAS: A CybEr range tRaining platform for medicAI organisations and systems Security"** Funded by the European Commission (MSCA-RISE-2019)
- **"CYBERSANE: Cyber Security Incident Handling, Warning and Response System for the European Critical Infrastructures"** Funded by the European Commission (SU-ICT-01-2018)
- **"GUARD: A cyber-security framework to GUArantee Reliability and trust for Digital service chains"** Funded by the European Commission (SU-ICT-01-2018)
- **"SPIDER: a cyberSecurity Platform for vIrtualiseD 5G cybEr Range services"** Funded by the European Commission (SU-DS01-2018)
- **"CONCORDIA: Cyber security cOmpeteNce fOr Research anD Innovation"** Funded by the European Commission (SU-ICT-03-2018)
- **"CyberExchange: Cyber Security Threats and Threat Actors Training - Assurance Driven Multi-layer, end-to-end Simulation and Training"** Funded by the European Commission (CEF-2017-3)
- **"RESIST: RESilient transport InfraSTructure to extreme events"** Funded by the European Commission (MG-7-1-2017) (
- **"CE-IoT: A Framework for Pairing Circular Economy and IoT: IoT as an enabler of the Circular Economy circularity-by-design as an enabler for the IoT"** Funded by the European Commission (MSCA-RISE-2017)
-

- Project proposals submitted:

E – Professional service

- Associate Editor duties
  - Applied Sciences (Editor Special Issue "Security management of 5G and IoT ecosystems", 2021).

- Society Technical Committee duties

- Conference Technical Program Committee service
  - ACM Cloud Computing Security Workshop (CCSW)
  - ACM Symposium on Information, Computer and Communication Security (ASIACCS)
  - IEEE International Conference on Cloud Computing (CLOUD)
  - IEEE International Conference on Communication and Network Security (CNS)
  - International Conference on World Wide Web (WWW)
  - International Workshop on Smart Circular Economy (SmaCE),
  - Usenix Security Conference

- Conference Organization (specify role)
  - European Workshop on System Security (EuroSec), (Steering Committee)

- Reviewing activities

F – Service to the School and the University

- School – level responsibilities
  - Director of MHL

- University responsibilities
  - Alternate Member of the Ethics and Deontology Committee

G – Advising

- Active graduate students supervised

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

  - Ph.D. and M.Sc. theses in progress (supervisor)
    1. Giorgos Christou, Ph.D
    2. Dimitris Deyannis, Ph.D
    3. Michalis Diamantaris, Ph.D.
    4. Kostas Drakonakis, Ph.D.
    5. Evangelia Papadogiannaki, Ph.D.
    6. Alexander Shevtsov, Ph.D.
    7. Charalambos Mitropoulos, Ph.D.

8. Serafeim Moustakas, M.Sc.
9. Vasilis Amourgianos, M.Sc.
10. Manolis Chatzimpyrros, M.Sc.
11. Ioannis Morianos, M.Sc
12. Grigoris Ntousakis, M.Sc.
13. Charalampos Savvakos, M.Sc.
14. Andreas Theofanous, M.Sc.
15. Giannis Arkalakis, M.Sc

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

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

- Undergraduate students supervised

  - Diploma theses in progress
    - Christos Diktopoulos
    - Giorgos Koutroumpas
    - Kostas Zacharopoulos
    - Stelios Oikonomou
    - Manos Lefakis
    - Stavros Lyronis
    - Maria Tsolaki
    - Alexandros Papadakis
    - Kostas Filopoulos
    - Nikolaos Kanakis
    - Emmanouela Theodoraki
    - Giorgos Sapounas
    - Michalis Fokas

  - Diploma theses completed (supervisor)
    - Iraklis Agathis
    - Andreas Theofanous
    - Giannis Arkalakis
    -

  - Diploma theses in progress (committee member)

  - Diploma theses completed (committee member)
    -

Technical University of Crete
School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Kostas Kalaitzakis
Rank: Full Professor
Years in rank: 18
Full-time or part-time: Full-time
Division: Electronic and Computer Architecture
Lab affiliation: Circuits, Sensors and Renewable Energy Sources (CSRES) Laboratory (www.elci.tuc.gr)

A – Teaching

- Undergraduate courses taught

    o ACE 202: Electric Circuits Analysis (mandatory)
    o ACE 414 : Electric Measurements and Sensors

- Graduate courses taught
    o ACE 602 : Special Topics on Electric Measurement Systems

- Labs taught

- Curriculum & course development

- Lecture notes / slides developed

    o Electric Circuits Analysis (ACE 202)
    o Electric Measurements and Sensors (ACE 414)

- Authored textbooks : None

B – Publications

- **Publications in refereed journals**

    o **Published:**

- Konstantinidis G., Kanellos F., Kalaitzakis K., "A Simple Multi-Parameter Method for Efficient Charging Scheduling of Electric Vehicles", Applied Systems Innovation, 4, 58, https://doi.org/10.3390/asi4030058, 2021.

- Sifakis N., Kalaitzakis K., Tsoutsos T., "Integrating a novel smart control system for outdoor lighting infrastructures in ports", Energy Conversion and Management, 246 (2021), 114684, https://doi.org/10.1016/j.enconman.2021.114684, 2021.

- Mavrigiannaki A., Gobakis K., Kolokotsa D., Kalaitzakis K., Pisello A. L., Piselli C., Laskari M., Saliari M., Assimakopoulos M.N., Pignatta G., Synnefa A., Santamouris M., "Zero Energy Concept at Neighborhood level: A case study analysis", Solar Energy Advances, Vol. 1, 100002, 2021.
  - **Submitted:**

- 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", submitted to IET Energy Systems Integration.

- **Publications in refereed conferences: --**

- **Books and edited book chapters: --**

- **Patents: --**

C – Awards & Distinctions: --

D – Funded Projects

- *Current projects:*

  - "Aerial Video Inspection of Greek power lines structures – AdVISEr", Project Code: T2EΔK-03595, "Competitiveness, Entrepreneurship and Innovation", ESPA 2014 – 2020.

  - "Smart Power Inverter to provide Integrated Services to power grids and consumers – ePOWER", Project Code: T2EΔK-01775, "Competitiveness, Entrepreneurship and Innovation", ESPA 2014 – 2020.

E – Professional service

- Regular Reviewer in high quality international Journals with referees

F – Service to the School and the University

- School – level responsibilities:

    o Member of the Deanery Committee

- University – level responsibilities:

    o Chair of the Ethics and Deontology of Research Committee

G – Advising

- **Active graduate students supervised**

    o Ph.D. students supervised **(advisor**, in progress)

    o M.Sc. students supervised (**advisor**, in progress)

    o M.Sc. Degrees (committee member)

    o Ph.D. Degrees (committee member)

- **Undergraduate students supervised**

    o **Diploma theses <u>completed</u> (<u>supervisor</u>):**

        ▪ Saloustros Vasileios
        ▪ Genetzakis Georgios
        ▪ Iatrakis Petros-Pavlos
        ▪ Gionis Nikolaos
        ▪ Margoni Ioanna

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Fotios D. Kanellos
Rank: Associate Professor
Years in rank: 3
Full-time or part-time: Full-time
Division:
Lab affiliation: Electric Energy Systems

A – Teaching

- Undergraduate courses taught
  - ENE 401 : Electric Power Systems II (mandatory)
  - ACE 419 : Power Electronics

- Graduate courses taught
  - ECE 172 : Special Topics on Electric Power Systems

- Labs taught
  - ACE 419 : Power Electronics

- Curriculum & course development
  - Labs developed
  - Lecture notes / slides developed

B – Publications

- Publications in refereed journals
  - Published:
    - F. D. Kanellos, "Optimal Scheduling and Real-Time Operation of Distribution Networks With High Penetration of Plug-In Electric Vehicles", (2021), IEEE Systems Journal, vol. 15, no. 3, pp. 3938-3947.
    - Farinis, G.K., Kanellos, F.D., "Integrated energy management system for Microgrids of building prosumers", (2021) Electric Power Systems Research, 198, art. no. 107357.
    - Syllignakis, J.E., Kanellos, F.D., "A PSO Optimal Power Flow (OPF) Method for Autonomous Power Systems Interconnected with HVDC Technology", (2021) Electric Power Components and Systems, 49 (1-2), pp. 67-78.

- Dakanalis, M., Kanellos, F.D., "Efficient model for accurate assessment of frequency support by large populations of plug-in electric vehicles", (2021) Inventions, 6 (4), art. no. 89, .
- Konstantinidis, G., Kanellos, F.D., Kalaitzakis, K., "A simple multi-parameter method for efficient charging scheduling of electric vehicles", (2021) Applied System Innovation, 4 (3), art. no. 58.
- Tsekouras, G.J., Kanellos, F.D., Kontosoros, M., "Sensitivity analysis of optimal power dispatch for all-electric ship", (2021) WSEAS Transactions on Power Systems, 16, pp. 22-40.

- Publications in refereed conferences
  - Kalaitzakis, I., Dakanalis, M., Kanellos, F.D., "Optimal Power Management for Residential PEV Chargers with Frequency Support Capability", (2021) 2021 10th International Conference on Modern Circuits and Systems Technologies, MOCAST 2021, art. no. 9493342.

- Books and edited book chapters

- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - e-Power/T2EΔK-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

- Project proposals submitted:

E – Professional service

- Associate Editor duties

- Society Technical Committee duties

- Conference Technical Program Committee service

- Conference Organization (specify role)

- Reviewing activities
  - IEEE Transactions on Power Systems
  - IEEE Transactions on Smart Grid

- o IEEE Systems Journal
- o IEEE Transactions on Sustainable Energy
- o IEEE Vehicular Technology
- o Ocean Engineering
- o Electric Power Systems Research
- o Journal of Intelligent & Robotic Systems
- o IEEE IAS Publications

F – Service to the School and the University

- School – level responsibilities
  - o Director of Electric Energy Systems Laboratory

- University responsibilities
  - o Member of TUC Technical Council

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)
    - Konstantinidis George (M.Sc)
    - Kalaitzakis Iason-Christos (M.Sc)
    - Dakanalis Michael (M.Sc)
    - Peponakis Emanuel (M.Sc)
    - Karandinou Aikaterini (M.Sc)
    - Anastasiadi Nikoleta (M.Sc)

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

  - o Ph.D. and M.Sc. Degrees in progress (committee member)
    - Roditis Ioannis (M.Sc)
    - Malisovas Athanassios (M.Sc)
    - Orfanoudakis Stavros (M.Sc)
    - Peristeropoulos Antonios (M.Sc)
    - Bardaksis Ioannis (M.Sc)
    - Tsamoudalis Konstantinos (M.Sc)
    - Leloudas Stavros (PhD)

- Undergraduate students supervised

  - o Diploma theses in progress (supervisor)
    - Leontsinis Konstantinos

- Lintas Stefanos
- Kyriakou Dimitra
- Delakis Nikolaos
- Laskaris Andreas
- Komitopoulos Nikolaos
- Sartzetakis Antonios
- Christofolakis Tryfon
- Pitta Eleni
- Rampias Sarantis
- Trakidis Petros
- Symiakakis Mathaios
- Enotiadis Nikolaos
- Moschakis Ioannis

- Diploma theses completed (supervisor)
  - Chasioti Christina
  - Psarakis Ioannis
  - Palialeksis Konstantinos
  - Chatzioannidis Lazaros

- Diploma theses in progress (committee member)
  - Tychalas Petros
  - Apostolakis Dimitrios
  - Kontos Stefanos
  - Ioannou Ioannis
  - Kourtidis Dimitrios
  - Giannopoulos Emmanuel
  - Mastorakis Antonios
  - Kartsonakis Georgios
  - Triantafylou Ioannis
  - Charalambidis Georgios
  - Proestakis Ioannis
  - Metavitsiadis Ioannis
  - Perraki Maria
  - Stefanakis Konstantinos
  - Demerzis Eleftherios
  - Triantafylou Panagiotis
  - Tsaparas Christos
  - Vardaksis Ioannis
  - Saoulis Lampros
  - Mavrovatis Stylianos
  - Sdoukos Thomas
  - Litsios Sotirios
  - Rousakis Skouloudis
  - Gioumatzidis Meletios
  - Petrakis Emanuel
  - Tsokas Vasilios

- Diploma theses completed (committee member)
    - Michalopoulos Ioannis
    - Piskopos Dionysios
    - Iosifidou Marina
    - Orfanoudakis Stavros
    - Antonakakis Antonios
    - Genetzakis Georgios
    - Konstantinidou Andri
    - Saloustros Vassilios

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Eftichios Koutroulis
Rank: Associate Professor
Years in rank: 5
Full-time or part-time: Full – Time
Division: Electronics and Computer Architecture
Lab affiliation: Circuits, Sensors and Renewable Energy Sources Laboratory

A – Teaching

- Undergraduate courses taught
    - ACE 101: Logic Design (mandatory)
    - ACE 102: Basic Circuit Theory (mandatory)

- Graduate courses taught
    - ENE 602: Electronic Energy Management Systems

- Curriculum & course development
    - Lecture notes / slides developed
        - ACE 101 - Logic Design: updated the existing slides
        - ACE 102 - Basic Circuit Theory: updated the existing slides
        - ENE 602 - Electronic Energy Management Systems: updated the existing slides

B – Publications

- Publications in refereed journals
    - Published:
        - P. Ailliot, M. Boutigny, E. Koutroulis, A. Malisovas, V. Monbet, "Stochastic weather generator for the design and reliability evaluation of desalination systems with Renewable Energy Sources", *Renewable Energy*, Vol. 158, pp. 541-553, 2020.
        - F. Zheng, W. Wu, B. Chen and E. Koutroulis, "An Optimized Parameter Design Method for Passivity-Based Control in a LCL-

Filtered Grid-Connected Inverter", *IEEE Access*, vol. 8, pp. 189878-189890, 2020.

- S. Luo, W. Wu, E. Koutroulis, H. S. -H. Chung and F. Blaabjerg, "A New Virtual Oscillator Control Without Third-Harmonics Injection For DC/AC Inverter," *IEEE Transactions on Power Electronics*, vol. 36, no. 9, pp. 10879-10888, 2021.
- E. Koutroulis, G. Petrakis, V. Agou, A. Malisovas, D. Hristopulos, P. Partsinevelos, A. Tripolitsiotis, N. Halouani, P. Ailliot, M. Boutigny, V. Monbet, D. Allard, A. Cuzol, D. Kolokotsa, E. Varouchakis, K. Kokolakis, S. Mertikas, "Site selection and system sizing of desalination plants powered with renewable energy sources based on a web-GIS platform", *International Journal of Energy Sector Management*, pp. 1-24, 2021.
- V. Gogolou, K. Kozalakis, E. Koutroulis, G. Doumenis, S. Siskos, "An Ultra-Low-Power CMOS Supercapacitor Storage Unit for Energy Harvesting Applications", *Electronics*, vol. 10, no. 17, pp. 1-14, 2021.

- Publications in refereed conferences
    - Published:

        - G. I. Orfanoudakis, E. Koutroulis, M. A. Yuratich and S. M. Sharkh, "Extended Boost PV inverter topology for the reduction of common-mode leakage current in three-phase applications", *22nd European Conference on Power Electronics and Applications (EPE'20 ECCE Europe)*, Lyon, France, 2020, pp. 1-10.
        - Y. Cheng, W. Wu, H. Chung, F. Blaabjerg, E. Koutroulis and L. Zhu, "Using Kalman Filter to Achieve Online Estimation of Equivalent Grid Impedance and High Bandwidth Control for LCL-Filtered Grid-tied Inverters", *46th Annual Conference of the IEEE Industrial Electronics Society (IECON 2020)*, Singapore, 2020, pp. 4247-4252.
        - S. Luo, W. Wu, H. Chung, F. Blaabjerg and E. Koutroulis, "A Novel Third-Harmonic Elimination Method for VOC-Based Three-Phase DC/AC Inverter", *46th Annual Conference of the IEEE Industrial Electronics Society (IECON 2020)*, Singapore, 2020, pp. 3170-3175.
        - I. Roditis, E. Koutroulis, "Comparative Performance Evaluation of Multiport DC/AC Inverters for Distributed Generation

Applications", *2021 10th International Conference on Modern Circuits and Systems Technologies (MOCAST)*, pp. 1-4, 2021.

- V. Gogolou, Z. Agorastou, V. Kalenteridis, K. Kozalakis, I. Kosmadakis, K. Siozios, E. Koutroulis, S. Siskos, "Design considerations for a DC-DC Boost Converter in standard CMOS technology", *2021 10th International Conference on Modern Circuits and Systems Technologies (MOCAST)*, pp. 1-4, 2021.
- N. Rigogiannis, A. Boubaris, Z. Agorastou, N. Papanikolaou, S. Siskos and E. Koutroulis, "Experimental Study of a Low-Voltage PV Cell-Level DC/AC Converter," *2021 10th International Conference on Modern Circuits and Systems Technologies (MOCAST)*, pp. 1-5, 2021.

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

E – Professional service

- Associate Editor duties
  - Guest Associate Editor, *IEEE Journal of Emerging and Selected Topics in Power Electronics*, Special Issue "Emerging Applications of Power Electronics in Developing Economies".
  - Member of the Editorial Board of the *"Renewable Energy"* journal (publisher: Elsevier).

- Conference Technical Program Committee service

- o Program Committee member, "*10th International Conference on Modern Circuits and Systems Technologies (MOCAST 2021)*".

- Reviewing activities

  - o Performed 25 reviews of journal papers (including revisions) for:

    IEEE Transactions on Power Electronics
    IEEE Journal of Emerging and Selected Topics in Power Electronics
    IEEE Transactions on Energy Conversion
    IEEE Transactions on Very Large Scale Integration Systems
    IEEE Transactions on Industrial Electronics
    Renewable Energy
    Applied Sciences

  - o Reviewed 1 book proposal for CRC Press.
  - o Reviewed 1 book proposal for Wiley.

F – Service to the School and the University

- School 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
  - o Member of the Technical Council of the Technical University of Crete
  - o Undergraduate studies advisor
  - o Member of the Sustainability Committee of the Technical University of Crete

G – Advising

- Active graduate students supervised

  - o Ph.D. and M.Sc. theses completed (supervisor)
    1. Malisovas Athanasios (M.Sc.)

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

1. Mandourarakis Ioannis (Ph.D.)
2. Malisovas Athanasios (Ph.D.)
3. Antonis Peristeropoulos (M.Sc.)
4. Ioannis Roditis (M.Sc.)

- Undergraduate students supervised

  - Diploma theses completed (supervisor)

    1. Constantinidou Andria
    2. Bountoukos Theodoros
    3. Politis Vasileios
    4. Albantis Anastasios
    5. Stasinos Apostolos
    6. Iliakis Georgios

  - Diploma theses in progress (supervisor)

    1. Stamatiadis Ioannis
    2. Stratakis Ippokratis
    3. Triantafyllou Ioannis
    4. Proestakis Ioannis
    5. Metavitsiadis Ioannis
    6. Tychalas Petros
    7. Perraki Maria
    8. Apostolakis Dimitris
    9. Litsios Sotiris
    10. Mikel Ropi
    11. Stefanakis Costas
    12. Demertzis Eleftherios
    13. Tsaparas Christos
    14. Mavrommatis Stylianos
    15. Sdoukos Thomas
    16. Kosmopoulos Stefanos
    17. Petrakis Emmanuel
    18. Koukouzas Christos

Technical University of Crete
School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: George S. Stavrakakis
Rank: Full Professor
Years in rank: 26
Full-time or part-time: Full-time
Division: Electronic and Computer Architecture
Lab affiliation: Circuits, Sensors and Renewable Energy Sources (CSRES)
Laboratory (www.elci.tuc.gr)

A – Teaching

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

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

- Labs taught
  - **Introduction to Power Systems /Power Systems I (ENE 301)**

  - **Renewable Energy Sources (ENE 511)**

- Curriculum & course development
  - Introduction to Power Systems (ENE 301)

  - Renewable Energy Sources (ENE 511)

- Authored textbooks : None

B – Publications

- **Publications in refereed journals and published Book(Volume)**

  - Submitted : 2

  - Accepted : 2
  - **Published :**
    - **SOTIRIOS G. LILIOPOULOS and GEORGE S. STAVRAKAKIS**

"Discrete ARMA Model Applied for Tumor Growth Inhibition Modeling and LQR-based Chemotherapy   Optimization" WSEAS TRANSACTIONS on BIOLOGY and BIOMEDICINE, Volume 18, 2021, pp 141-145, DOI: 10.37394/23208.2021.18.17

- **GEORGE STAVRAKAKIS, GUEST EDITOR,**
  "Alternative Sources of Energy Modeling and Automation" (open source BOOK)
  MDPI Books- St. Alban-Anlage 66 4052 Basel, Switzerland, 2020
  ISBN: 978-3-03928-375-0

- **Publications in refereed conferences: --**

- **Publications in conferences on abstract review**: **1**
  MAVROMATAKIS FOTIS, KATSIGIANNIS IOANNIS, HARITAKI HARA, SIDERAKIS KYRIAKOS,   STAVRAKAKIS GIORGOS "An engineering financial analysis of a research sea platform" International Conference On Applied Economics (ICOAE 2021)Heraklion, Crete, Greece, 26-28 August 2021.
  - **Patents:**one 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.*

---*"Energy-aware Factory Analytics for Process Industries (FACTLOG)-code of the Special Account of TUC: 82081, Horizon 2020 (H2020)-Innovation Action. Duration of the contract: 01-01-2020 until 31-12-2020. 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: 2 (still waiting for the submitted proposals evaluation results)

E – Professional service
- 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

  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 (e.g. ΕΔΕΤ) : one

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

F – Service to the Department and the School

- Departmental responsibilities : none
- School – level responsibilities: none

G – Advising

- **Active graduate students supervised**

  o Ph.D. students supervised (***advisor***, in progress)

- ▪ Blazakis Constantinos
- ▪ Yotis Thomas

o M.Sc. students supervised (*advisor*, in progress)

- ▪ Liliopoulos Sotirios
- ▪ Kladou Anastasia
- ▪ Viskadouraki Evaggelia
- ▪ Tsamoudalis Konstantinos

o M.Sc. Degrees (committee member)

- ▪ Fytraki Evangelia (M.Sc.)-*completed*
  - *In progress:*
    - ▪ Peristeropoulos Antonios
    - ▪ Polomarkaki Sofia
    - ▪ Papanikolaou Marios
    - ▪ Anastasiadi Nikoletta
- ▪ Argyriou Ioannis (School of Chemical & Environmental Engineering of TUC)

o Ph.D. Degrees (committee member). ***Defended.***

- ▪ Member of the Intermediate 5 members Examination Committeeand of the 7 members final Examination Committee of ECE School -N.T.U.A. Athens for the PhD supervising and examination of Mr. Alaa Zaky Hussein.

Undergraduate students supervised

o **Diploma theses <u>in progress</u> (<u>supervisor</u>)**:
- ▪ Gioumatzidis Meletios
- ▪ Sgourou Maria
- ▪ Chalevidis Dimitrios
- ▪ Zafiropoulos Mich.
- ▪ Gakis Konst.
- ▪ Kartsonakis Georgios
- ▪ Stamatelou Evanthia
- ▪ Giata Ioanna
- ▪ Tsokas Vasilios
- ▪ Giannopoulos Emmanouil
- ▪ Zarkada Savoula
- ▪ Gentsoudis Vasilios
- ▪ Kourtidis Dimitrios
- ▪ Mertarakis Adreas
- ▪ Kabourakis Nomikos
- ▪ Triantafyllou Panagiotis

o **Diploma theses <u>completed</u> (<u>supervisor</u>):**

- Iosifidou Marina
- Goutzioudis Georgios
- Sytzanakis Georgios
- Grigoriadis Theodoros
- Piskopos Dionisios
- Batsis Georgios
- Charalampous Ioulia (Iliana)

o Diploma theses in progress & completed (committee member):

- Almpanis Anastasios
- Chasioti Christina
- Palialexis K
- Stasinos Apostolos
- Chatzioannidis Lazaros
- Michalopoulos I.
- Psarakis I.
- Athanasiou Sofia
- Koutalaki Maria Eleni
- Enotiadis Nikolaos
- Iliakis Georgios
- Moschakis Ioannis
- Politis G.

Technical University of Crete
School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Nikolaos Bekiaris-Liberis
Rank: Assistant Professor
Years in rank: 3
Full-time or part-time: Full – Time
Division: Systems
Lab affiliation: Automation Laboratory

A – Teaching

- Undergraduate courses taught

  - SYS 411: Linear Systems (non-mandatory)
  - SYS 204: Control Systems (mandatory)

- Graduate courses taught

  - SYS 603: Nonlinear Systems

- Curriculum & course development

  - Lecture notes / homework / exam / lab exercises
    - SYS 411: Linear Systems: Lectures development (slides and videos). Homework and final exam development.
    - SYS 204: Control Systems: Homework and exam development. Update of lab exercises.
    - SYS 603: Nonlinear Systems: Homework and exam development.

B – Publications

- Publications in refereed journals
  - Published:
    - N. Bekiaris-Liberis and A. Delis, "PDE-based feedback control of freeway traffic flow via time-gap manipulation of ACC-equipped vehicles," *IEEE Transactions on Control Systems Technology,* vol. 29, pp. 461—469, 2021.
    - N. Bekiaris-Liberis, "Hybrid boundary stabilization of linear first-order hyperbolic PDEs despite almost quantized measurements

and control input," *Systems and Control Letters,* vol. 146, paper no. 104809, 2020.
- o Submitted:
  - 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,* under review*.*

C – Awards & Distinctions

D – Funded Projects

- Submitted proposals:

  - o *Micro-macro secure control of infinite-dimensional transport systems.* Horizon Europe ERC Consolidator Grant. Role: PI. (Submitted; proposal currently in Step 2 of evaluation.)
  - o *Secure control of infinite-dimensional epidemiological systems. Hellenic Foundation for Research and Innovation;* Always strive for excellence Theodoros Papazoglou action*. (Proposal not funded.)*

- Successful proposals:
  - o *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. (Proposal selected for funding.)

E – Professional service

- Editorial duties

  - o Associate Editor member of the Editorial Board of International Federation of Automatic Control (IFAC) journal *Automatica* (publisher: Elsevier).
  - o Associate Editor member of the Editorial Board of the *IEEE Transactions on Intelligent Transportation Systems* (publisher: IEEE).
  - o Associate Editor member of the Editorial Board of the *2021 European Control Conference* (publisher: IEEE).
  - o Associate Editor member of the Editorial Board of the *2021 IFAC Workshop on Time Delay Systems* (publisher: Elsevier).

- Technical committees member

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

- International program committees member

  - o 2021 IFAC Workshop on Time Delay Systems.

- Invited session organization

  - o Traffic Control via Connected and Automated Vehicles, 2021 IEEE Conference on Decision and Control.

- PhD Committees

  - o Liudmila Tumash, University of Grenoble Alpes. (Thesis reviewer and examiner.)

- Reviewing activities

  - o Performed ~ 15 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)
    IET Control Theory and Applications (publisher: IEEE)
    International Journal of Control (publisher: Taylor and Francis)
    Physica A (publisher: Elsevier)
    Transportation Research Part B (publisher: Elsevier)
    Transportation Research Part C (publisher: Elsevier)

F – Service to the School and the University

- School responsibilities

  - o Member of undergraduate diploma theses examining committees.
  - o Undergraduate studies student advisor.
  - o ECE seminar series organizer.

- University responsibilities

  o Member of equipment supply and delivery committees.

G – Advising

- Undergraduate students supervised

  o Diploma theses in progress (supervisor)
    1. Nikos Intas
    2. Triantafyllia Sampani

  o Diploma theses completed (supervisor)
    1. Stavros Katsaras

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Aggelos Bletsas
Rank: Full Professor
Years in rank: 2.5
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught
    - TEL 303: Telecommunication Systems II
      (mandatory, 25 lectures + mandatory midterm + 10 problem sets + 1 Lab exercise + final)

    - TEL418 Computer Networks II
      (elective, 25 theory lectures + 3 psets taught by instructor + 2 labs + final)

- Graduate courses taught
    - TEL602 Detection & Estimation Theory
      (24 lectures + 5 problem sets + midterm + final + term project)

B – Publications

- Book Chapters
    1. Published:
        - G. Vougioukas and **A. Bletsas**, "Smartphone Reception of MicroWatt Power, Meter-Kilometer Range, Backscatter Resistive/Capacitive Sensors with Ambient FM Remodulation & Selection Diversity", chapter 10 in *Elements Series on Wireless Power Transmission for Sustainable Electronics*, Editor N. Carvalho, pp. 287-321, Cambridge University Press, 2020.

- Publications in refereed journals
    1. Published:

- K. Skyvalakis and **A. Bletsas**, "Asynchronous Reception of 2 RFID Tags", *IEEE Transactions on Communications (TCOM)*, Vol. 69, No. 8, Aug. 2021.

- 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)*, accepted for publication, available at ieeexplore (early access), Aug. 2021, DOI: 10.1109/JRFID.2021.3103393.

- Publications in refereed conferences

    1. Published:
        - A. Tzitzis, A. Filotheou, S. Siachalou, E. Tsardoulias, S. Megalou, **A. Bletsas**, K. Panayiotou, A. Symeonidis, T. Yioultsis and A. G. Dimitriou, "Real-time 3D localization of RFID-tagged products by ground robots and drones with commercial off-the-shelf RFID equipment: Challenges and Solutions", *IEEE International Conference on RFID (RFID)*, Sept. 2020.

        - K. Skyvalakis and **A. Bletsas**, "Asynchronous Reception/Detection of 2 RFID Tags*", IEEE International Conference on Communications (ICC)*, June 2021, Montreal, Canada.

        - G. Vougioukas and **A. Bletsas**, "DoA Estimation of a Hidden RF Source Exploiting Simple Backscatter Radio Tags", *IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*, June 2021, Toronto, Canada.

        - 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 International Conference on RFID (RFID)*, Apr. 2021. **Invited for special issue at J-RFID**. 🏆

        - V. Papageorgiou, A. Nichoritis, P. Vasilakopoulos, G. Vougioukas and **A. Bletsas**, "Towards Ambiently Powered Inference on Wireless Sensor Networks: Asynchrony is the Key!", *5th IEEE International Workshop on Wireless Communications and Networking in Extreme Environments (WCNEE)*, July 2021. **Received Best Paper Award**. 🏆

- Patents
    1. Published:

- G. Vougioukas and **A. Bletsas**, "Switching frequency methods and apparatus for ambient backscatter networking and jamming", *U.S. Patent & Trademark Office (USPTO)* Patent 10763990, Sept. 1, 2020.

C – Awards & Distinctions

- Second Prize in the 2020 IEEE Communications Society (ComSoc) "Communications Technology Changing the World" International Student Competition
  "Recycling Radio Waves for the Wide Adoption of Precision Agriculture", Georgios Vougioukas, Nikolaos Ntantidakis, & Emmanouil Andrianakis, Advisor: **Aggelos Bletsas.** Technical University of Crete, Greece. 🏆

- 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 International Conference on RFID (RFID)*, Apr. 2021.
  Invited for special issue at J-RFID. 🏆

- V. Papageorgiou, A. Nichoritis, P. Vasilakopoulos, G. Vougioukas and **A. Bletsas**, "Towards Ambiently Powered Inference on Wireless Sensor Networks: Asynchrony is the Key!", *5th IEEE International Workshop on Wireless Communications and Networking in Extreme Environments (WCNEE)*, July 2021.
  Received Best Paper Award. 🏆

D – Funded Projects

- Current projects:

  - 1 Project funded through Action "Research-Create-Innovate", *Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RESEARCH - CREATE - INNOVATE (project code: T1EDK-03032).* Role: TUC Principal Investigator.

  - 1 Project 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.

E – Professional service

- Associate Editor duties

- - **Associate Editor,** *IEEE Transactions on Wireless Communications.*

- Conference Technical Program Committee (TPC) service
  - IEEE International Conference on Communications (ICC) 2021 (IoT & Sensor Networks Track).
  - IEEE International Conference on Communications (ICC) 2021 (Mobile Wireless Networks Track).
  - IEEE International Conference on Communications (ICC) 2021 (Cognitive Radio and AI-Enabled Networks).
  - IEEE Global Communications Conference (Globecom) 2021 (Communications Theory Track).
  - IEEE Global Communications Conference (Globecom) 2021 (IoT & Sensor Networks Track).
  - IEEE Global Communications Conference (Globecom) 2021 (Mobile Wireless Networks Track).
  - IEEE Global Communications Conference (Globecom) 2021 (Green Communication Systems and Networks
  - IEEE IWCMC 2021, Wireless Networks Track.

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

F – Service to the School and the University

- School responsibilities
  - Member of TUC Quality Assurance Committee.
  - Member of TUC Research Committee Objections Evaluation Committee.
  - Substitute Member of the School of ECE Graduate Studies Committee.
  - Member of the TUC Library Committee.
  - Member of various procurement committees.

G – Advising

- **Diploma** theses supervised as **principal advisor – COMPLETED Theses:**

  - Completed Diploma theses supervisor for
    1. Panos Vasilakopoulos
    2. Vasileios Papapegeorgiou
    3. Athanasios Nichoritis

- **M.Sc** theses supervised as **principal advisor – COMPLETED Theses:**

  - Completed M.Sc. theses supervisor for
    1. Konstantinos Skyvalakis

- **Ph.D.** theses supervised as **principal advisor – COMPLETED Theses:**

- o Completed Ph.D. thesis supervisor for
    1. Georgios Vougioukas, *Scatter Radio Relaying & Applications*, School of ECE, Technical Univ. of Crete, Dec. 2020.

- **Ph.D., M.Sc. or Diploma theses <u>principal advisor</u>**, <u>in progress</u>:
  Various students

- **Ph.D., M.Sc. or Diploma theses <u>committee member</u>**, <u>completed or in progress</u>:
  Various students

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Dionissios T. Hristopulos
Rank: Professor
Years in rank: 13
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Geostatistics Laboratory

A – Teaching

- Undergraduate courses taught
    - MATH 201 : Theory of Probability (mandatory)
    - MATH 412 : Stochastic Processes and Time Series Analysis
    - MOP 310 : Statistics and Probability for Engineers (School of Mineral Resources Engineering)

- Graduate courses taught
    - N/A

- Labs taught
    - MATH 412 : Stochastic Processes and Time Series Analysis

- Curriculum & course development
    - New courses / labs developed
      MATH 201 : Theory of Probability (mandatory)
      MATH 412 : Stochastic Processes and Time Series Analysis

    - Lecture notes / slides developed
        MATH 201 : Theory of Probability (mandatory)
        MATH 412 : Stochastic Processes and Time Series Analysis

    - Authored textbooks
        N/A

B – Publications

- Publications in refereed journals

  - Kaniadakis, G., Baldi, M.M., Deisboeck, T.S., G. Grisolia, **D. T. Hristopulos**, A. M. Scarfone, A. Sparavigna, T. Wada, and U. Lucia. "The κ-statistics approach to epidemiology." *Scientific Reports* **10,** 19949 (2020). https://doi.org/10.1038/s41598-020-76673-3

  - **D. T. Hristopulos**, Vasiliki D. Agou, "Stochastic local interaction model with sparse precision matrix for space–time interpolation." *Spatial Statistics*, Volume 40, 100403 (2020). https://doi.org/10.1016/j.spasta.2019.100403

  - E. A. Varouchakis, **D. T. Hristopulos**, G.P. Karatzas, G. A. Corzo Perez, V. Diaz. "Spatiotemporal geostatistical analysis of precipitation combining ground and satellite observations." *Hydrology Research*; 52 (3): 804–820 (2021). https://doi.org/10.2166/nh.2021.160

  - K. Thanjavur, A. Babul, B. Foran, M. Bielecki, A. Gilchrist, **D. T. Hristopulos**, L. R. Brucar, N. Virji-Babul. "Recurrent neural network-based acute concussion classifier using raw resting state EEG data." *Scientific Reports,* **11,** 12353 (2021). https://doi.org/10.1038/s41598-021-91614-4

  - D. Allard, **D. T. Hristopulos**, and T. Opitz. "Linking physics and spatial statistics: A new family of Boltzmann-Gibbs random fields." *Electronic Journal of Statistics*, 15 (2) 4085 - 4116 (2021). https://doi.org/10.1214/21-EJS1879

  - **Hristopulos, D. T**., Spagnolo, B., and Valenti, D., "Open challenges in environmental data analysis and ecological complex systems", *Europhysics Letters*, vol. 132, no. 6, 2020. https://doi.org/10.1209/0295-5075/132/68001

  - **Hristopulos, D.T**., Pavlides, A., Agou, V.D., and Gkafa, P., "Stochastic Local Interaction Model: An Alternative to Kriging for Massive Datasets." *Mathematical Geosciences*, 53, 1907–1949 (2021). https://doi.org/10.1007/s11004-021-09957-7

  - Petropoulos, G.P., Sandric, I., **Hristopulos, D.,** and Carlson, T. N. "Evaporative Fluxes and Surface Soil Moisture Retrievals in a Mediterranean Setting from Sentinel-3 and the Simplified Triangle". *Remote Sensing, 12*, 3192 (2020). https://doi.org/10.3390/rs12193192

  - Petrakis, G., Tripolitsiotis, A., Koutroulis, E., **Hristopulos, D.,** Halouani, N., Ben Naceur, A. and Partsinevelos, P. *"*Geo-informatics for optimal design of desalination plants using renewable energy sources: the DES^{2}iRES platform paradigm." *Arabian Journal of Geosciences,* **13,** 1012 (2020). https://doi.org/10.1007/s12517-020-06026-x

- Publications in refereed conferences
  - Diaz, J.C., Agioutantis, Z., Schafrik, S. and **Hristopulos, D.T.**, "Towards atmospheric monitoring data analysis in underground coal mines." In *Mine Ventilation* (pp. 498-506); edited by P. Tukkaraja. CRC

Press, London (2021). https://doi.org/10.1201/9781003188476

- Publications in refereed conferences (abstracts only)
    - V. D. Agou, A. Pavlides, and **D. T. Hristopulos**. "Space-Time Analysis of Precipitation Reanalysis Data for the Island of Crete using Gaussian Anamorphosis with Hermite Polynomials." In *Geophysical Research Abstracts*, volume 22, Online, April 2021. European Geosciences Union. Abstract no. EGU21-3088. URL: https://doi.org/10.5194/egusphere-egu21-3088.
    - **Hristopulos, D. T.,** "Boltzmann-Gibbs Models for Spatiotemporal Data", TIES-GRASPA 2021 (The *International Environmetrics Society and Gruppo di Ricerca per le Applicazioni della Statistica ai Problemi Ambientali),* University of Rome "La Sapienza" Italy, June 7-9 (Invited presentation)
    - **Hristopulos, D. T.,** "Random fields with truncated polynomial spectral density". In *4th International Conference on Econometrics and Statistics*, Hong Kong University of Science and Technology, Hong Kong (Virtual conference), June, 24-26 2021.. Abstract no. E739. URL: http://www.cmstatistics.org/EcoSta2021/

- Books and edited book chapters
    D. T. Hristopulos, *Random Fields for Spatial Data Modeling: A Primer for Scientists and Engineers,* Springer, Dordrecht (2020), *867pp.*

    D. T. Hristopulos. Discrete prolate spheroidal sequence. 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

- Patents
  N/A

C – Awards & Distinctions
  N/A

D – Funded Projects

- Current projects:
    - "*Gaussian anamorphosis using kernel estimation for spatially distributed data and time series and application to precipitation" (2020-2021),* 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:
  N/A

E – Professional service

- Associate Editor duties
  - [Member of the Editorial Board of Computers and Geosciences (published by Elsevier, IF 3.372)](#).

- 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)

- 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 (ECE School)

- University responsibilities
  N/A

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)
    - Vasiliki Agou (Ph.D., School of Mineral Resources Engineering)

- Ph.D. and M.Sc. degrees awarded (committee member)
  - Fabian Guignard (PhD), Faculty of Geosciences and Environment, Université de Lausanne, Switzerland.

- Ph.D. and M.Sc. Degrees (committee member)
  - Panagiota Theodoridou (PhD), School of Chemical and Environmental Engineering, TUC
  - Konstantinos Kokkolakis (PhD), School of Mineral Resources Engineering
  - Tsellou Aikaterini (MSc), ECE

- Undergraduate students supervised
  - N/A

- Diploma theses in progress (supervisor)
  - Maria Koltsidopoulou (ECE)
  - Anastasia Karekla (ECE)
  - Ioannis Ioannou (ECE)
  - Angeliki Karavolia (ECE)
  - Ioanna Zachariou (ECE)
  - Ioannis Karvounakis (ECE)

- Diploma theses completed (supervisor)
  - N/A

- Diploma theses in progress (committee member)
  - ΤΣΑΠΑΝΟΥ ΛΑΜΠΡΙΑΝΗ
  - ΠΟΥΛΕΑ ΕΥΣΤΑΘΙΑ
  - ΣΑΜΠΑΝΗ ΤΡΙΑΝΤΑΦΥΛΛΙΑ

- Diploma theses completed (committee member)
  - Κατσάρας Σταύρος Ραφαήλ (ECE)

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: George Karystinos
Rank: Professor
Years in rank: 3
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught
    - TEL 201: Signals and Systems (mandatory)
    - TEL 416: Information Theory and Coding (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
        - TEL 511 / MATH 607: Number Theory and Cryptography
    - Lecture notes / slides developed
        - TEL 511 / MATH 607: Number Theory and Cryptography
    - Authored textbooks

B – Publications

- Publications in refereed journals

    - Submitted:

    - Accepted: those published (see below), plus
        - 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*, accepted June 2021.

- o Published:
  - ▪ H. Kamrani, A. Zolghadr Asli, P. P. Markopoulos, M. Langberg, D. A. Pados, and **G. N. Karystinos**, "Reduced-rank L1-norm principal-component analysis with performance guarantees," *IEEE Transactions on Signal Processing*, vol. 69, pp. 240-255, Jan. 2021.

- Publications in refereed conferences

  - o Submitted:

  - o Accepted:

  - o Published:

- 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.

- Project proposals submitted:
  - o *"Secure Communication Based on Robust 3D Localization,"* Funding Source: European Commission, Horizon 2020 Program, NGIatlantic.eu 3rd Open Call. Submitted Feb. 2021.

E – Professional service

- Associate Editor duties

- Society Technical Committee duties
  - o Programme Committee Expert, European Research Council (ERC), Future and Emerging Technologies (FET), and Marie Skłodowska-Curie Actions (MSCA) Programme Committee, European Commission's Horizon2020 Framework Programme, 2019 - 2020.
  - 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

- 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)
    - Siaminou Ioanna (M.Sc.)
    - Skyvalakis Konstantinos (M.Sc.)

  - Ph.D. and M.Sc. Degrees in progress (committee member)
    - Chatzigeorgiou Roza (M.Sc.)
    - Doubaras Georgios (M.Sc.)
    - Giannelos Evangelos (Ph.D.)
    - Karatarakis Evangelos (M.Sc.)
    - Kolomvakis Christos (M.Sc.)
    - Papagiannakos Ioannis-Marios (M.Sc.)
    - Vardakis Iosif (M.Sc.)

- Undergraduate students supervised

  - Diploma theses in progress
    - Agapakis Titos
    - Dafoulis Nikolaos
    - Konidakis Ioannis

- Konstantas Christos
- Logothetis Emmanouil
- Matsatsos Ioannis
- Nasoulis Nikolaos
- Neonakis Pavlos-Stylianos
- Nodarakis Michail
- Theofilou Eleni
- Xifara Efstathia-Magdalini

- Diploma theses in progress (committee member)
  - Iliadis Stylianos
  - Karekla Anastasia
  - Kotridis Georgios
  - Paktitis Spyridon
  - Papageorgiou Vasilios
  - Paschalidou Christina
  - Peppas Spyridon
  - Polyzos Christos
  - Rentzepopoulos Athanasios
  - Tsiaousis Christos

- Diploma theses completed (committee member)
  - Algiannaki Maria
  - Giakoumais Pavlos-Paris
  - Psychountaki Margarita-Antonia

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Liavas Athanasios
Rank: Professor
Years in rank: Ten (11)
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught

    - Telecommunications Systems I (mandatory)
    - Convex Optimization (X-listed)

- Graduate courses taught

    - Convex Optimization (X-listed)
    - Advanced topics in Convex Optimization

- Labs taught

- Curriculum & course development

    - New exercises-lab in Advanced Topics in Convex Optimization

B – Publications

- Publications in refereed journals

    - Submitted:

        P. A. Karakasis, A. P. Liavas, N. D. Sidiropoulos, P. Simos and E. Papadaki, "Multi-subject Task-related fMRI Data Analysis via Generalized Canonical

Correlation Analysis," submitted to the IEEE Transactions on Image Processing, March 2021.

- Publications in refereed conferences

    o Published:

        ▪ I. Siaminou and A. P. Liavas, "An Accelerated Stochastic Gradient for Canonical Polyadic Decomposition" EUSIPCO 2021, Dublin, August 2021.

        ▪ I. Siaminou, I.-M. Papagiannakos, C. Kolomvakis, and A. P. Liavas, "Accelerated Stochastic Gradient for Nonnegative Tensor Completion and Parallel Implementation," EUSIPCO 2021, Dublin, August 2021.

- Books and edited book chapters

▪ P. A. Karakasis, C. Kolomvakis, G. Lourakis, G. Lykoudis, I.-M. Papagiannakos, I. Siaminou, C. Tsalidis, and A. P. Liavas, "PARTENSOR: a toolbox for parallel canonical polyadic decomposition," book chapter in Tensors for Data Processing, Elsevier, 2021.

- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:

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

E – Professional service

- Associate Editor duties

- Society Technical Committee duties

▪ Chair of the IEEE SPS Seasonal School Subcommittee

- Conference Technical Program Committee service

- Conference Organization (specify role)

- Reviewing activities

  o IEEE Transactions on Signal Processing, ICASSP 2021, EUSIPCO 2021.

F – Service to the School and the University

- School – level responsibilities

  o Dean, School ECE

- University responsibilities

  o Member of the Senate of the Technical University of Crete

G – Advising

- Active graduate students supervised

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

    ▪ I. Siaminou (MSc Student)

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

    ▪ Aleksandros Georgogiannis (PhD Student)
    ▪ Christos Kolomvakis (MSc Student)
    ▪ Ioannis-Maris Papagiannakos (MSc Student)

- Undergraduate students supervised

  o Diploma theses in progress

    ▪ Christos Polyzos
    ▪ Margarita-Antonia Psychountaki
    ▪ Eustathia Poulea
    ▪ Pavlos Neonakis
    ▪ Spyridon Paktitis
    ▪ Emmanouil Limneos

  o Diploma theses completed (supervisor)

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Michael Paterakis
Rank: Professor
Years in rank: 22
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information and Computer Networks Laboratory

A – Teaching

- Undergraduate courses taught

  - TEL 401: Computer Networks I (Mandatory)
  - TEL 420: Modelling and Performance Analysis of Communication Networks (Elective)

- Graduate courses taught

  - TEL 601: Probability Theory and Stochastic Processes

B – Publications

C – Awards & Distinctions

D – Funded Projects

- Current projects:

  - 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

    - 2013 - 2021, Member, Graduate Committee, ECE School, Technical University of Crete.

    - 2017 - 2021, Member of the Deanery, ECE School, Technical University of Crete.

    - 2019 – 2022, 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.

    - 2017 - 2021, Deputy Member of the University Senate.

G – Advising

- Active graduate students supervised

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

        - Sofikitis Emmanuel (M.Sc.)

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

        - Skyvalakis Konstantinos

- Undergraduate students supervised

    - Diploma theses in progress (supervisor)
        - Nikolakakis Panteleimon

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Michalis Zervakis
Rank: Professor
Years in rank: 21
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: 1. Digital Image and Signal Processing Lab
                 2. Lab of Automation

A – Teaching

- Undergraduate courses taught
  - TEL 302: Digital Signal Processing (mandatory)
  - TEL 311: Machine Learning and Pattern recognition

- Graduate courses taught

- 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:

  - Published:

[1] Antonakakis, M; Schrader, S; Aydin, Ü; Khan, A; Gross, J; Zervakis, M; Rampp, S; Wolters, C; "Inter-subject variability of skull conductivity and thickness in calibrated realistic head models", Neuroimage, 223, 2020, Academic Press

[2] de Lastic, H-X; Liampa, I; Georgakilas, A; Zervakis, M; Chatziioannou, A; "Entropic Ranks: A Methodology for Enhanced, Threshold-Free, Information-Rich Data Partition and Interpretation", Applied Sciences, 10, 20, p. 7077, 2020

[3] Giannakaki, K; Giannakakis, G; Vorgia, P; Zervakis, M; "Absence seizure detection classifying matching pursuit features of EEG signals", EAI Trans. on Bioengineering and Bioinformatics, 2021

[4] A. Deshpande, T. Cambria, C. Barnes, A. Kerwick, G. Livanos, M. Zervakis, A. Beninati, N. Douard, M. Nowak, J. Basilion, J. Cutter, G. Bauman, S. Shrestha, Z. Giakos, W. Elmannai, Yi Wang, P. Foroutan, T. Farrahi, G. Giakos, "Fluorescent Imaging and Multifusion Segmentation for Enhanced Visualization and Delineation of Glioblastomas Margins", Signals, MDPI, no. 2, vol. 2, 2021

[5] O. Giannakopoulou, P. Toumpaniaris, I. Kouris, K. Moirogiorgou, N. Karanasiou, V. Aisopou, G. Matsopoulos, A. Chandrinou, N. Anousakis-Vlachochristou, F. Psarros, P. Syrigas, V. Karalidou, N. Costaridis, M. Zervakis, D. Koutsouris, "A Platform for Health Record Management of the Conscripts in the Hellenic Navy", v. 281, Public Health and Informatics, IOS Press, DOI: 10.3233/SHTI210181

- Submited:

[1] N. Bourbakis, K. Michalopoulos, M. Antonakakis and M. Zervakis, "A New Multi-resolution Approach to EEG Brain Modeling Using Local-Global Graphs and Stochastic Petri-Nets", International Journal of Neural Systems, submitted 2021

[2] A. Dovrou, E. Bei, S. Sfakianakis, K. Marias, N. Papanikolaou, M. Zervakis, "Synergies of Radiomics and Transcriptomics in Lung Cancer Diagnosis", PLOS One, Submitted 2021

- Publications in refereed conferences

  o Published:

[1] A. Vogiatzis, G. Chalkiadakis, K. Moirogiorgou, M. Zervakis, "A Novel One-vs-Rest Classification Framework for Mutually Supported Decisions by Independent Parallel Classifiers",2021 IEEE Intl Conf. on Imaging Systems and Techniques (IEEE IST), Aug, 2021

[2] A. Vogiatzis, G. Chalkiadakis, K. Moirogiorgou, G. Livanos, M. Papadogiorgaki, M. Zervakis, "Dual-Branch CNN for the Identification of Recyclable Materials", 2021 IEEE Intl Conf. on Imaging Systems and Techniques (IEEE IST), Aug, 2021

[3] K. Politof, M. Antonakakis, A. Wollbrink, C. Wolters, M. Zervakis, "Reconstruction

of the Very Early Thalamo-Cortical Network with Combined EEG and MEG on Realistic Head Modeling", 10th International IEEE/EMBS Conference on Neural Engineering (NER). Pp. 373-374, May 2021

[4] K. Giannakaki, K. Moirogiorgou, M. Zervakis, N. Anousakis-Vlachochristou, G. Matsopoulos, C. Komporozos, V. Sourides, G. Katsimagklis, Maria Drakopoulou, K. Toutouzas, C. Avgeropoulou, A. Androulakis, "Automatic aortic valve area detection in echocardiography images using convolutional neural networks and U-net architecture for bicuspid aortic valve recognition", 2021 IEEE Intl Conf. on Imaging Systems and Techniques (IEEE IST), Aug, 2021

- Books and edited book chapters

[1] Podaras, A; Moirogiorgou, K; Zervakis, M; "Regression-Based Recovery Time Predictions in Business Continuity Management: A Public College Case Study", Handbook of Research on Global Challenges for Improving Public Services and Government Operations, pp. 380-408, 2021, IGI Global

- Patents

D – Funded Projects

- Current projects:
  - 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
  - 2020-2021 European Pattent Office EPO Project - Sword Group and TUC collaboration, "RfO VM-454 2.1.3.1 Computer Vision" co-Leader of ECE team for TUC (with M. Lagoudakis)
  - ΥΠΟΥΡΓΕΙΟ ΑΓΡΟΤΙΚΗΣ ΑΝΑΠΤΥΞΗΣ ΚΑΙ ΤΡΟΦΙΜΩΝ, "ΚΑΙΝΟΤΟΜΙΑ ΣΤΗΝ ΥΔΑΤΟΚΑΛΛΙΕΡΓΕΙΑ", «Εφαρμογή έξυπνων συστημάτων για τη βελτίωση της διαχείρισης και της ευζωίας των ψαριών σε συνθήκες καλλιέργειας σε κλωβούς (iFish)»
  - ΥΠΕΠΘ, ΕΡΕΥΝΩ – ΔΗΜΙΟΥΡΓΩ – ΚΑΙΝΟΤΟΜΩ, «ΠΡΟΤΥΠΕΣ ΥΠΗΡΕΣΙΕΣ ΙΑΤΡΙΚΗΣ ΑΞΙΟΛΟΓΗΣΗΣ, ΠΡΟΛΗΨΗΣ ΚΑΙ ΔΙΑΣΤΡΩΜΑΤΩΣΗΣ ΣΤΡΑΤΕΥΣΙΜΩΝ ΚΑΙ ΕΚΤΙΜΗΣΗ ΔΕΙΚΤΩΝ ΥΓΕΙΑΣ (e-Mass)»
  - ΥΠΕΠΘ, ΕΡΕΥΝΩ – ΔΗΜΙΟΥΡΓΩ – ΚΑΙΝΟΤΟΜΩ, «Προηγμένο Σύστημα Πρόληψης Επικίνδυνων Καταστάσεων για Βρέφη - χ (επι) ΒΛΕΨΙΣ)»
  - ΥΠΕΠΘ, ΕΡΕΥΝΩ – ΔΗΜΙΟΥΡΓΩ – ΚΑΙΝΟΤΟΜΩ, «Αυτόνομο ρομποτικό σύστημα για ανακύκλωση αστικών απορριμμάτων (ΑΝΑΣΑ)»
  - ΥΠΕΠΘ, ΕΡΕΥΝΩ – ΔΗΜΙΟΥΡΓΩ – ΚΑΙΝΟΤΟΜΩ, «Έξυπνη Γεωργία με την χρήση Drones - (MARS)»
  - Αυτοματοποιημένη εποπτεία εναέριας λήψης του Ελληνικού Δικτύου γραμμών μεταφοράς ρεύματος - AdVISEr' @ Τ2ΕΔΚ

- ○ 'Σύστημα Υποστήριξης Ποιότητας Ζωής για Άτομα με Νοητική Αναπηρία – QuaLiSID' @ T2ΕΔΚ

- Project proposals submitted:

  - ○ Κόμβοι Καινοτομίας StartHealth EDIH, 2020
  - ○ In-Eureca-Pro, EIT proposal, 2021

E – Professional service

- Associate Editor duties
  - **Associate Editor**, since 1/1/2017, Journal of Biomedical Signal Processing and Control, https://ees.elsevier.com/bspc
  - **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
  - Technical Committee co-chair, IEEE Instrumentation and Measurement Society, TC-19 Imaging Measurements and Systems, since 20/1/2017

- Conference Technical Program Committee service
  - Honorary Co-Chair, IEEE Imaging Systems and Techniques (IST) 2021, virtual conference New York USA, Aug. 24-26, 2021 https://ist2021.ieee-ims.org/committees/
  - IEEE Sponsored "Digital Signal Processing and its Applications — DSPA-2021", Programme Committee member and a Bioengineering section co-chair http://dspa-conf.org/pages/home

- Conference Organization (specify role)
  - ○

- Reviewing activities
  - ○ Reviewer for IEEE BHI2017, IEEE EMBC2017, IEEE IST2017, HealthCom2017

F – Service to the School and the University

- School responsibilities
  - ○ Vice-Rector of Research and Life-long Learning, TUC
  - ○ Digital Image and Signal Processing Laboratory, Director
  - ○ Automation Laboratory, Director

- University responsibilities
  - ○ President of ELKE
  - ○ Member of the Senate, TUC

G – Advising
Undergraduate students supervised
- Active graduate students supervised

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

    o Ph.D. and M.Sc. theses in progress (supervisor)
        - Liaba Irini (Ph.D.)
        - Livanos Georgios (Ph.D.)
        - Moirogiorgou Constantia (Ph.D.)
        - Apostoliw Karasmanoglou (M.Sc)
        - Tsakaneli Stavroula (M.Sc.)
        - Klados Georgios (M.Sc.)
        - Politof Konstantinos (M.Sc.)
        - Tsellou Aikaterini (M.Sc.)
        - Σδουκοπούλου Γλυκερία (Μετ)

    o Ph.D. και M.Sc. φοιτητές που ολοκλήρωσαν (μέλος επιτροπής)
        - Meropi Manataki PhD (ΜΗΧΟΠ)
        - Avaneesh Singh (PhD) "Efficient Compartmental Models to Study Dynamics of Disease Spread and Epidemic Forecast" (PDPM-IIITDM Jabalpur)

    o Ph.D. και M.Sc. φοιτητές με διατριβή σε εξέλιξη (μέλος επιτροπής)
        - ΚΑΛΑΝΤΖΑΚΗ ΚΑΛΛΙΟΠΗ (PH.D.)
        - Ντουμπάρας Γεώργιος (Μετ)
        - Βαρδάκης Ιωσήφ (Μετ)
        - Μπόρας Χαράλαμπος (Μετ)

- Ενεργοί προπτυχιακοί φοιτητές

    o Ολοκληρωμένη διατριβή (επιβλέπων)
        - Τσέκος Νικόλαος
        - Ζαφείρης Στυλιανός
        - Σίμος Νικόλαος
        - Σδουκοπούλου Γλυκερία
        - Αικατερίνη Δόβρου
        - Ολυμπία Γάλλου
        - Νικόλαος Ζωίδης
        - Κοσμάς Πινήτας
        - Δημήτρης Συρίγος

- Διατριβή σε εξέλιξη (επιβλέπων)
    - Αθανάσιος Δελατόλας
    - Τσαπανού Λαμπριανή
    - ΠΑΣΧΑΛΙΔΟΥ ΧΡΙΣΤΙΝΑ
    - Αντωνιάδης Θέόδωρος
    - Μαλεφιουδάκης Βανιαμίν
    - +5 περίπου

- Ολοκληρωμένη διατριβή (μέλος επιτροπής)
    - Χαράλαμπος Σκούφης
    - Παναγιώτης Παπαδημητρίου
    - Μιχάλης Γαλάνης
    - Μαργαρίτα-Αντωνία Ψυχουντάκη
    - Μαρία Αργυρίου
    - Ιλεάννα Σωτηροπούλου
    - Θεόφιλος Ζαχείλας
    - Ηρακλής-Ταξιάρχης Κοκκίνης
    - Ηλίας Τσίχλης
    - Ευστράτιος Κουτρουλάκης
    - Εμμανουήλ Γιαλιτάκης
    - Γεώργιος Γκουτζιούδης
    - Γεώργιος Γαλανός,
    - Αναστάσιος Μποκαλίδης
    - Αλέξιος Βλάχος

- Διατριβή σε εξέλιξη (μέλος επιτροπής)
    - Κουρτίδης Δημήτριος
    - Στέλιος Νικολακάκης
    - Παντζέκος Λάμπρος
    - ΣΤΑΜΑΤΕΛΟΥ ΕΥΘΑΛΙΑ
    - ΒΛΑΧΟΣ ΚΩΝΣΤΑΝΤΙΝΟΣ
    - ΚΑΣΤΕΛΛΑΚΗΣ ΑΝΤΩΝΙΟΣ
    - ΚΑΡΑΒΟΛΙΑ ΑΓΓΕΛΙΚΗ
    - ΖΑΧΑΡΙΟΥΔΑΚΗΣ ΝΙΚΟΛΑΟΣ
    - ΜΑΡΑΓΚΟΥΔΑΚΗΣ ΑΝΤΩΝΙΟΣ-ΕΜΜΑΝΟΥΗΛ
    - ΧΑΖΛΗΣ ΓΕΩΡΓΙΟΣ
    - ΠΟΥΛΕΑ ΕΥΣΤΑΘΙΑ
    - ΠΑΠΑΝΑΣΤΑΣΙΟΥ ΑΝΑΣΤΑΣΙΟΣ-ΠΑΝΑΓΙΩΤΗΣ
    - ΚΑΣΤΡΙΝΑΚΗΣ ΔΗΜΗΤΡΙΟΣ
    - ΓΚΕΝΤΣΟΥΔΗΣ ΒΑΣΙΛΕΙΟΣ
    - ΚΑΜΠΥΛΑΥΚΑΣ ΑΝΑΣΤΑΣΙΟΣ
    - ΚΑΡΑΜΑΪΛΗΣ ΠΑΝΤΕΛΕΗΜΩΝ
    - ΚΟΥΤΑΛΑΚΗ ΜΑΡΙΑ-ΕΛΕΝΗ

- ΒΕΛΟΥΔΑΚΗΣ ΚΩΝΣΤΑΝΤΙΝΟΣ ΣΤΥΛΙΑΝΟΣ
- ΜΑΝΤΑΛΑ ΧΡΙΣΤΙΝΑ
- ΤΡΙΜΑΣ ΧΡΗΣΤΟΣ
- ΝΙΚΟΛΟΥΛΙΑΣ ΔΗΜΗΤΡΙΟΣ-ΜΑΡΙΟΣ
- ΚΟΛΤΣΙΔΟΠΟΥΛΟΥ ΜΑΡΙΑ-ΔΕΣΠΟΙΝΑ
- ΧΑΤΖΗΠΕΤΡΟΣ ΑΛΕΞΑΝΔΡΟΣ
- ΘΕΟΔΩΡΑΚΗΣ ΧΑΡΑΛΑΜΠΟΣ
- +10 περίπου

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Dimitris Angelakis
Rank: Associate Professor
Years in rank: 4
Full-time or part-time: Full-time
Division:
Lab affiliation:

A – Teaching

- Undergraduate courses taught
  - FYS 102: Physics (Electromagnetism) (mandatory)
  - FYS 411: Quantum Technology

- Graduate courses taught
  - FYS 602: Quantum Technology (FYS 602)

- Labs taught

- Curriculum & course development

  1. New courses / labs developed

  2. Lecture notes / slides developed
     - Updated "An introduction to quantum computing for FYS 411 and FYS 602"
     - Updated "Lectures slides for Physics 102"

  3. Authored textbooks

B – Publications

- Publications in refereed journals

- Accepted

1. Dark soliton detection using persistent homology
D Leykam, I Rondon, DG **Angelakis**
arXiv:2107.14594

2. Fock State-enhanced Expressivity of Quantum Machine Learning Models
B. Y. Gan, D. Leykam, D. G. **Angelakis***
arxiv.org/2107.05224

Published

1. B. Tan, M. A. Lemonde, S. Thanasilp, J. Tangpanitanon, D. G. **Angelakis***," Qubit efficient algorithms for binary optimization problems"
Quantum 5, 454 (2021)

2. J. Tangpanitanon, S. Thanasilp, M. A. Lemonde, N. Dangiam, D. G. **Angelakis***" Quantum supremacy and quantum phase transitions"
Phys. Rev. B 103, 165132 (2021)

3. N. Chang, S. Gundogdu, D. Leykam, D. G. **Angelakis**, S. Kou, S. Flach, A. Maluckov "Nonlinear Bloch wave dynamics in photonic Aharonov–Bohm cages"
APL Photonics 6, 030801 (2021)

4. D. Leykam, D. G. **Angelakis* "P**hotonic band structure design using persistent homology"
APL Photonics 6, 030802 (2021)

- Publications in refereed conferences

C – Awards & Distinctions

- Invited Research Professor Centre at Quantum Technologies, National University of Singapore September 2021 to January 2021
- Member of **EU Quantum Network Governing Board** for the European Flagship in Quantum Technologies, representing Greece (one scientist per EU country).

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

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

- Conference Technical Program Committee service

- 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

Invited talks and colloquia

1. "Qubit efficient quantum optimization algorithms and quantum machine learning on analog quantum simulators", Demokritos National Research Center Colloquium, Greece, July 2021 (online)

2. "Quantum computing with near term processors", National Technical University of Athens July 2021 (online)

Invited and Keynote talks in international conferences and advanced schools

1. "Driven quantum many-body systems for quantum supremacy and machine learning", The 11th Dynamic Days Asia-Pacific Conference, 16th September 2020.
2. World Quantum Day Event, "A basic introduction to Quantum Computing", April 2021

REFEREED CONTRIBUTIONS IN INTERNATIONAL MEETINGS

1. "Quantum supremacy in driven quantum many-body systems", Quantum Technology International Conference 2020 (online), Moscow, November 2020

2. "Fock State-enhanced Expressivity of Quantum Machine Learning Models", CLEO 2021 (online), 9-14 May 2021.

3. "Expressibility and trainability of parameterized analog quantum systems for machinee learning applications", Quantum Technology International Conference 2020 (online), November 2020

4. D.G. Angelakis, J. Tangpanitanon,*, Basic concepts for quantum optics and quantum technologies, in: Proceedings of the International School of Physics "Enrico Fermi", Course 204 "Nanoscale Quantum Optics", edited by M. Agio, I. D'Amico, R. Zia and C. Toninelli (Ios Press, Amsterdam; SIF, Bologna), 2020, p. 1436*

5. "Quantum supremacy in driven quantum many-body systems", APS March meeting 2021 (online), March 2021,

6. "Quantum supremacy and quantum phase transitions", APS March meeting 2021 (online), March 2021,

7. "Qubit-efficient encoding schemes for binary optimisation problems", Quantum Technology International Conference 2020 (online), November 2020,

8. "Efficient encoding schemes for binary optimization problems", APS March meeting 2021 (online), March 2021.

9. "Persistent homology of topological band structures", APS March Meeting 2021 (online), March 2021

10. "Characterizing Photonic Band Structures Using Topological Data Analysis", CLEO/Europe (online), June 2021

F – Service to the School and the University

- School responsibilities
  - Member of the ECE School Executive Committee

- 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)
1.
Tian Feng See (PhD NUS), started August 2014, graduate of DAMTP, Cambridge UK, defended Autumn 2020. "Scattering and multiphoton transport in many-body photonic systems:" Now working at semiconductors industry

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

2. Supanut Thanasilp, PhD "Quantum simulation and computation with near term quantum devices", NUS
3. Benjamin Tan, PhD, "Quantum computation and quantum optimization", NUS
4. Beng Yee Tan, PhD, "Quantum machine learning with photonic devices and applications", NUS
5. Chee Chong Hian Tan, PhD,. "Variational quantum algorithms and applications in quantum chemistry and machine learning", NUS
6. Shetakis Nikolaos "Quantum simulations in light matter systems" (Ph.D.), TUC
7. Leonidas Ioannis TUC "Quantum reinforcement learning learning and applications"

- o Ph.D. and M.Sc. Degrees completed (committee member)
  - ▪ Mr Yu Xianquan, NUS
  - ▪ Yap Han How, NUS

- o M.Sc. Degrees in progress (committee member)
  - ▪ Mr Tan Senmao, NUS
- Undergraduate students supervised

  - o Diploma theses ongoing

Psychogios Nikolaos TUC, "Variational hybrid quantum-classical algorithms and photonic implementations", ongoing

  - o Diploma theses completed (supervisor)

Alexandros Politis ECE TUC, "Variational hybrid quantum-classical algorithms and photonic implementations"

Ioannis Leonidas, ECE, TUC, "Quantum optimization with NISQ processors,

  - o Diploma theses in progress (committee member)

  - o Diploma theses completed (committee member)

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

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Demosthenes Ellinas

Rank: Professor

Years in rank:

Full-time or part-time: Full-time

Division:

Lab affiliation: QLab

A – Teaching

- Undergraduate courses taught
    - MATH 102: Linear Algebra
    - MATH 111: Discrete Mathematics
    - MATH 311: Introduction to Quantum Information
    - Graduate courses taught
    - MATH 601: Introduction to Quantum Information
- Curriculum & course development
    - New courses / labs developed
        - Lecture notes / slides developed
    - MATH 201: Linear Algebra: Lecture Notes

    MATH 111: Discrete Mathematics : Lecture Notes

    - MATH 311, MATH 601: Quantum Information: Lecture notes
    - Authored textbooks

B – Publications

- Publications in refereed journals
    - Submitted: those published/appeared (see below)
        - "Parameter Estimation with Reluctant Quantum Walks"

        Demosthenes Ellinas, Peter D Jarvis, Matthew Pearce

        p. 33
        - "Entanglement in quantum search database:

        Periodicity Variations and Counting"

        Demosthenes Ellinas, Christos Konstandakis, p. 20

Conference participation

"6th Hellenic Conference of Philosophy of Science" Talk "Quantum Entanglement: State-Observable Pairing, Empirical Equivalence and Dual Theories " 3-5 Dec. 2020, Nat. Kap. Univ. Athens

C – Awards & Distinctions

D – Funded Projects

- Current projects:
- Project proposals submitted

E – Professional service

- Associate Editor duties
    - Journal of King Saud University – Science

    Quantum Reports

- Greek Initiative in Quantum Technology : member of the group
- Reviewing activities
- Journal Physics A: Mathematical and Theoretical
- Entropy
- Quantum Reports

F – Service to the Department and the School

- Departmental responsibilities
- School – level responsibilities

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)
        - Bassford Michalis (Ph.D.)
- Undergraduate students supervised
    - Diploma theses in progress
        - D. Komninos "Euclidean Quantum Neural ets"
        - Symeonakis Aristotelis "Qauntum to Classical Transitions in Quantum Walks"
        - Moraitis Ioannis "PT Symmetric Electronics"
    - Diploma theses completed (supervisor)
      Polidis Petros, Study of Synchronization of Qubits: Manifestation of Quantum Effects"

    - Diploma theses in progress (committee member)
    - Diploma theses completed (committee member)

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Daphne Manoussaki
Rank: Assistant Professor
Years in rank: 15
Full-time or part-time: Full

A – Teaching

- Undergraduate courses taught

    Technical University of Crete – Dept. of Electrical and Computer Engineering
    o   MATH 101: Calculus I
    o   MATH 211: Differential Equations
    o   MATH 212: Mathematical Biology

    University of Crete – Medical School
    o   2.11: Mathematical Biology

D – Funded Projects

"Pressure measurements in the endolymphatic sac", funded as an NIDCD intramural research project.

E – Professional service

Reviewer for the Swiss National Science Foundation

G – Advising
- Undergraduate students supervised

    o   Diploma theses
        - Hadjinikolaou Michail (originally as supervisor, now as committee member).

        - Intas Nicolaos (committee member).

Technical University of Crete
School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

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

A – Teaching

- Undergraduate courses taught
- MATH 104 : Elements of Mathematics (mandatory)
- MATH 511 : Elements of Mathematical Analysis

- Graduate courses taught
  Σειρες Fourier και ΜιγαδικηΑνάλυση
  - Εφαρμοσμένη Συναρτησιακή Ανάλυση
- 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
- Published:

- Patents
- *GRANTED*

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 activiteϛ
  Reviews στο
  zentralblatt-math

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 supervised (advisor, completed)

  Ph.D. and M.Sc. students supervised
- Ph.D. and M.Sc. degrees awarded (committee member)

- Ph.D. and M.Sc. Degrees (committee member)
- Undergraduate students supervised

- Diploma theses in progress
- 5

- Diploma theses completed (supervisor)

- Diploma theses in progress (committee member)

- Diploma theses completed (committee member)

Annual Activity Report

For the period: Sep. 1, 2020 to Aug. 31, 2021

Name: Christodoulakis Stavros
Rank: Emeritus professor
Years in rank:
Full-time or part-time:
Division:
Lab affiliation:

A – Teaching

B – Publications
- 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.
- 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.
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- Moumoutzis, N., Rigas, N.A., Xanthaki, C., Maragkoudakis, Y., Christodoulakis, S., Paneva-Marinova, D., Pavlova, L.: "Employing Theatrical Games to Establish and Support Onlife Learning Communities on Mathematical Principles of Informatics." Digital Presentation and Preservation of Cultural and Scientific Heritage. Vol. 10, Sofia, Bulgaria: Institute of Mathematics and Informatics – BAS, 2020, pp. 19-44, ISSN 1314-4006 (Print), eISSN 2535-0366 (Online).

- SUBMITTED

1.) G. Anestis, N.Gioldasis, S. Karasavidis, S. Christodoulakis: A Formal Language for Describing and Executing Location-Based Pervasive Games, submitted for publication,2021

C – Awards & Distinctions

D – Funded 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
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  2.) [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

- **[MILAN]** "Multifunctional Innovative Learning Assisting Network for VET in Advanced Manufacturing"
  Budget: € 77.765,00
  Duration: 1/11/2018 - 30/4/2021
  Project Type: ERASMUS+

- **[TIM]** "Theatre in Mathematics"
  Budget: € 64.159,00
  Duration: 1/9/2018 - 31/8/2021
  Project Type: ERASMUS+

- **[MUSILIB]** "Music for children's multicultural learning "
  Budget: € 32.710,00
  Duration: 1/9/2018 - 28/2/2021
  Project Type: ERASMUS+

- **[Rythm4inclusion]** "Promoting Social, Emotional, and Learning Skills of Students with and without Special Education Needs by Developing Teachers' Capabilities in Music, Dance and Digital Competences"

Budget: € 54.785,00
Duration: 1/9/2018 - 31/8/2021
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]** «Παιγνιοποημένη 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 - 31/05/2022
  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 - 30/11/2022
  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+

E – Professional service

F – Service to the School and the University

G – Advising