TECHNICAL UNIVERSITY OF CRETE

School
of Electrical
and Computer
Engineering

Annual Activity Report

Sep 2018 – Aug 2019

Chania 2019

Key Statistics for Sep. 2018 – Aug. 2019

Total statistics

Journals Published: 40

Conferences Published: 47

Book Chapters: 5

Patents: 2

Diploma thesis: 103

MSc Thesis: 9

PhD Thesis: 1

Projects: 32

Average statistics (per faculty)

Journals Published: 1.67

Conferences Published: 1.96

Book Chapters: 0.21

Patents: 0.08

Diploma thesis: 4.29

MSc Thesis: 0.38

PhD Thesis: 0.04

Projects: 1.33

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
- 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, Associate Professor
- Digalakis Vassilios, Professor - on leave
- Karystinos George, Associate Professor
- Liavas Athanasios, Professor
- Paterakis Michael, Professor
- Zervakis Michalis, Professor
- christopoulos

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, 2018 to Aug. 31, 2019

Name: Georgios Chalkiadakis
Rank: Associate Professor
Years in rank: 3.5
Division: Computer Science
Lab affiliation: Intelligent Systems

A – Teaching

- Undergraduate courses taught
    - COMP 201: Design and Development of Information Systems (mandatory)
    - COMP 517: 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

- Publications in refereed journals
    1. Yair Zick, Georgios Chalkiadakis, Edith Elkind, and Vangelis Markakis: **Cooperative Games with Overlapping Coalitions: Charting the Tractability Frontier**. **Artificial Intelligence (AIJ)**, 271, pages 74-97, June 2019. Available online 30 Jan 2019.

- Publications in refereed conferences
    1. A. A. Panagopoulos, M. Katsigiannis, M. Pritoni, G. Fierro, D. Lengyel, T. E. Peffer, G. Chalkiadakis, D. Culler: **Dealing with Expected Thermal Discomfort.** In Proc. of the **20th biennial ACEEE Summer Study on Energy Efficiency in Buildings**, Panel 1, August 2018.
    2. Michail-Angelos Papilaris and Georgios Chalkiadakis: **Markov Chain Monte Carlo for Effective Personalized Recommendations.** In Proc. of the 16th European Conference on Multi-Agent Systems (**EUMAS-2018**), Bergen, Norway, December 2018.
    3. Athina Georgara, Thalia Ntiniakou and Georgios Chalkiadakis: **Learning Hedonic Games via Probabilistic Topic Modeling.** In Proc. of the 16th

European Conference on Multi-Agent Systems (**EUMAS-2018**), Bergen, Norway, December 2018.

4. Konstantia Xenou, Georgios Chalkiadakis and Stergos Afantenos: **Deep Reinforcement Learning in Strategic Board Game Environments.** In Proc. of the 16th European Conference on Multi-Agent Systems (**EUMAS-2018**), Bergen, Norway, December 2018.

5. Angelos Chliaoutakis, Georgios Chalkiadakis and Apostolos Sarris: **Employing Agent-Based Modeling to Study the Impact of the Theran Eruption on the Minoan Society.** In the 2019 post-confeernce Proceedings of the 3rd Computer Applications and Quantitative Methods in Archaeology - GR Conference (**CAA-GR-2018**), Limassol, Cyprus, June 2018.

6. Nikolaos Spanoudakis, Charilaos Akasiadis, Georgios Kechagias, and Georgios Chalkiadakis: **An Open MAS Services Architecture for the V2G/G2V Problem.** In Proc. of the 18th Int. Conf. on Autonomous Agents and Multiagent Systems (**AAMAS-2019**), Montreal, Canada, May 2019.

7. Angelos Chliaoutakis and Georgios Chalkiadakis: **AncientS-ABM: A Novel Tool for Simulating Ancient Societies**, In Proc. of the 17th International Conference on Practical Applications of Agents and Multi-Agent Systems (**PAAMS-2019**), Avila, Spain, June 2019.

8. Alberto Castellini, Georgios Chalkiadakis and Alessandro Farinelli: **Influence of State-Variable Constraints on Partially Observable Monte Carlo Planning.** In Proc. of the 28th International Joint Conference on Artificial Intelligence (**IJCAI-2019**), Macao, China, August 2019.

9. Athina Georgara, Dimitrios Troullinos and Georgios Chalkiadakis: **Extracting Hidden Preferences over Partitions in Hedonic Cooperative Games**. In Proc. of the 12th International Conference on Knowledge Science, Engineering, and Management (**KSEM-2019**), Athens, Greece, August 2019. **Best Student Paper Award winner**

C – Awards & Distinctions

- *Best Student Paper Award* at 12th International Conference on Knowledge Science, Engineering, and Management (**KSEM-2019**), for paper: **Extracting Hidden Preferences over Partitions in Hedonic Cooperative Games**. Co-authored with students Athina Georgara, Dimitrios Troullinos

- *Invited Tutorial*: **"From Game Theory to AI in Games"**, at the 17th International Conference on Autonomous Agents and Multiagent Systems (**AAMAS-2018**), Stockholm, Sweden, July 2018. *Co-tutored with: Dr. Georgios Yannakakis*

- **Invited Talk: "Overlapping Coalition Formation and its connections to Machine Learning"**. Department of Computer Science, University of Verona, Italy, May 2018.

- **Invited Talk: "Artificial Intelligence in Our Lives"**. Keynote speech during the celebration of the World Telecommunication and Information Society Day at Nicosia, Cyprus, May 2018.

D – Funded Projects

- Current projects:

  - **Project "RESCOOP Plus".** A Horizon 2020 project accepted under the Energy Efficiency call topic EE-10-2015 – "Consumer engagement for sustainable energy". The objective of the REScoop Plus project is to follow up on the RESCOOP20-20-20 project by making Renewable Energy Sources cooperatives in Europe go beyond their activities of producing and supplying energy, and take up energy savings for their members as a new pillar in their organisations. **Role:** *coordinator for the participating ECE-TUC team* **Duration: 2016-2019**
  - **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**
  - **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

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

- International Workshops and Summer Schools Chair and Organizer
  - Chair of the *2019 Advanced Course on AI (ACAI-2020) Summer School, Chania, Crete, July 1-5, 2019 **(ACAI-2019)**. **ACAI is a designated event of *EurAI, the European Association for Artificial Intelligence***. ACAI-2019 also constituted the **2019 Hellenic AI Summer School (HAISS-2019)**, an EETN designated event. It was also endorsed and co-sponsored by the European Association for Multi-Agent Systems (EURAMAS), and the Region of Crete, among others.
  - Local Organizer of ***20PoA**, the Twenty Years of the Price of Anarchy workshop*, Chania, Crete, July 2-5, 2019.

- Conference <u>*Senior*</u> Technical Program Committee service
  - The 18th International Conference on Autonomous Agents and Multiagent Systems, Montreal, Canada, May 2019 (**AAMAS-19**).
  - The 33rd AAAI Conference on Artificial Intelligence, Honolulu, Hawaii, USA, January 2019 (**AAAI-2019**).

- Conference Technical Program Committee service

- o The 17th European Conference on Multiagent Systems **(EUMAS-2018)**, Bergen, Norway, December 2018.

- 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*

G – Advising

- Active graduate students supervised

  - o Ph.D. and M.Sc. students completed (supervisor)
    - Georgara Athina (M.Sc.)
    - Ntiniakou Thaleia (M.Sc.)

  - o Ph.D. and M.Sc. theses in progress (supervisor)
    1. Chliaoutakis Aggelos (Ph.D.)
    2. Tripolitakis Evaggelos (Ph.D.)
    3. Kydonakis Ares (M.Sc.)
    4. Antonios Vogiatzis (M.Sc.)

- Undergraduate students supervised

  - o Diploma theses (MEng level) completed (supervisor)
    1. Kechagias Georgios
    2. Mersinias Michail
    3. Troullinos Dimitrios

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Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Antonios Deligiannakis
Rank: Associate Professor
Years in rank: 6
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 516 : Data Processing and Handling in Sensor Networks

- Graduate courses taught
    - COMP 606 : Data Processing and Handling in Sensor Networks (Offered jointly with COMP 516)
    - 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)
        - N. Giatrakos, A. Deligiannakis, M.N. Garofalakis, Y. Kotidis: Omnibus Outlier Detection in Sensor Networks using Windowed Locality Sensitive Hashing. Future Generation Computer Systems

- N. Giatrakos, N. Katzouris, A. Deligiannakis, A. Artikis, M. Garofalakis, G. Paliouras, H. Arndt, R. Grasso, R. Klinkenberg, M.P De Leon, G.G. Tartaglia, A. Valencia and D. Zissis: Interactive Extreme– Scale Analytics towards Battling Cancer. IEEE Technology and Society Magazine, Volume 38, Issue 2, Pages 54-61, June 2019
- N. Giatrakos, E. Alevizos, A. Artikis, A. Deligiannakis, M. Garofalakis: Complex Event Recognition in the Big Data Era: A Survey. VLDB Journal, Volume 29, Issue 1, Pages 313-352, 2020.
- I. Flouris, N. Giatrakos, A. Deligiannakis, M. Garofalakis: Network-wide complex event processing over geographically distributed data sources. Information Systems.
- I. Flouris, N. Giatrakos, A. Deligiannakis, M. Garofalakis: Event Analytics over Geographically Distributed Data. PVLDB.

- o Accepted:
  - N. Giatrakos, A. Deligiannakis, M.N. Garofalakis, Y. Kotidis: Omnibus Outlier Detection in Sensor Networks using Windowed Locality Sensitive Hashing. Future Generation Computer Systems
  - N. Giatrakos, N. Katzouris, A. Deligiannakis, A. Artikis, M. Garofalakis, G. Paliouras, H. Arndt, R. Grasso, R. Klinkenberg, M.P De Leon, G.G. Tartaglia, A. Valencia and D. Zissis: Interactive Extreme– Scale Analytics towards Battling Cancer. IEEE Technology and Society Magazine
  - N. Giatrakos, E. Alevizos, A. Artikis, A. Deligiannakis, M. Garofalakis: Complex Event Recognition in the Big Data Era: A Survey. VLDB Journal, Volume 29, Issue 1, Pages 313-352, 2020.

- o Published:
  - N. Giatrakos, N. Katzouris, A. Deligiannakis, A. Artikis, M. Garofalakis, G. Paliouras, H. Arndt, R. Grasso, R. Klinkenberg, M.P De Leon, G.G. Tartaglia, A. Valencia and D. Zissis: Interactive Extreme– Scale Analytics towards Battling Cancer. IEEE Technology and Society Magazine, Volume 38, Issue 2, Pages 54-61, June 2019

- Publications in refereed conferences
  - o Submitted: those published/appeared (see below)
    - Nikos Giatrakos, Alexander Artikis, Antonios Deligiannakis, Minos Garofalakis: Uncertainty-Aware Event Analytics over Distributed Settings. In Proceedings of the 13th International Conference on Distributed and Event-based Systems (DEBS'19).

  - o Accepted:
    - Nikos Giatrakos, Alexander Artikis, Antonios Deligiannakis, Minos Garofalakis: Uncertainty-Aware Event Analytics over Distributed Settings. In Proceedings of the 13th International Conference on Distributed and Event-based Systems (DEBS'19).

- o Published:
    - Nikos Giatrakos, Alexander Artikis, Antonios Deligiannakis, Minos Garofalakis: Uncertainty-Aware Event Analytics over Distributed Settings. In Proceedings of the 13th International Conference on Distributed and Event-based Systems (DEBS'19), Darmstadt, Germany, June 2019.

D – Funded Projects

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

E – Professional service

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

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

F – Service to the School and the University

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

G – Advising

- Active graduate students supervised

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

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

    - o 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
    - Giannopoulos Emmanuel
    - Fragkakis Panteleimon
    - Kyriakidou Ioanna
    - Papageorgiou Dimitrios
    - Petheriotis Angelos
    - Vasilaki Anastasia
    - Pikionis Petros-Platon
    - Petheriotis Aggelos
    - Goutziouli Dimitra
    - Efrosyni Anesti
    - Ntelmpizis Asterios

  - Diploma theses completed (supervisor)
    - Fragkiadoulakis Emmanuel
    - Mariolou Nektaria
    - Zoukas Konstantinos
    - Bitsakis Theodoros
    - Kyriakopoulos Konstantinos
    - Vatikiotis Evangelos – Achilios
    - Stamatakis Georgios
    - Moulios Argyris
    - Tzavaras Aimilios
    - Kafritsas Nikolaos

  - Diploma theses completed (committee member)
    - Ziakas Christos
    - Moumoulidou Zafeiria
    - Kotzampasakis Georgios
    - Karageorgiou Kanin Christos
    - Botonakis Stylianos

- Demertzis Rafail-Athanasios
- Koundourakis Xenofon
- Neofytos Zacharia
- Motos Michail
- Efraimidis Michail

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Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Minos Garofalakis
Rank: Professor
Years in rank: 10
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: Software Technology and Network Applications (SoftNet) Laboratory

A – Teaching

- Undergraduate courses taught
    - PLI 401: Algorithms and Complexity (mandatory)
    - PLI 415: Advanced Topics in Databases (elective)

B – Publications

- Publications in refereed journals

    - Published:

        - Odysseas Papapetrou and Minos Garofalakis. "Monitoring Distributed Fragmented Skylines", Distributed and Parallel Databases, Vol. 36, No.4, December 2018.

        - Nikos Giatrakos, Antonios Deligiannakis, Minos Garofalakis, Daniel Keren, and Vasilis Samoladas. "Scalable Approximate Query Tracking over Highly Distributed Data Streams with Tunable Accuracy Guarantees", Information Systems, Vol. 76, 2018.

        - Nikos Giatrakos, Nikos Katzouris, Antonios Deligiannakis, Alexander Artikis, Minos Garofalakis, George Paliouras, Holger Arndt, Raffaele Grasso, Ralf Klinkenberg, Miguel Ponce De Leon, Gian Gaetano Tartaglia, Alfonso Valencia, and Dimitrios Zissis. "Interactive Extreme-Scale Analytics towards Battling Cancer", IEEE Technology and Society Magazine, Vol. 38, No. 2, 2019.

- Publications in refereed conferences

  - Accepted:

    - Grigorios Chrysos, Odysseas Papapetrou, Dionisios Pnevmatikatos, Apostolos Dollas, and Minos Garofalakis. "Data stream statistics over sliding windows: How to summarize 150 Million updates per second on a single node", Proceedings of FPL'2019 (to appear).

  - Published:

    - Vasilis Samoladas and Minos Garofalakis. "Functional Geometric Monitoring for Distributed Streams", Proceedings of EDBT'2019, Lisbon, Portugal, March 2019.

    - Nikos Giatrakos, Alexander Artikis, Antonios Deligiannakis, and Minos Garofalakis. "Uncertainty-Aware Event Analytics over Distributed Settings" (Industrial Track paper), Proceedings of DEBS'2019, Darmstadt, Germany, June 2019.

- Books and edited book chapters

  - Minos Garofalakis. "Distributed Data Streams", Entry in: Encyclopedia of Database Systems (2nd ed.) (Ling Liu and M. Tamer Ozsu, Eds.), Springer, 2018.

  - Minos Garofalakis. "Wavelets on Streams", Entry in: Encyclopedia of Database Systems (2nd ed.) (Ling Liu and M. Tamer Ozsu, Eds.), Springer, 2018.

  - Minos Garofalakis. "The Discrete Wavelet Transform and Wavelet Synopses", Entry in: Encyclopedia of Database Systems (2nd ed.) (Ling Liu and M. Tamer Ozsu, Eds.), Springer, 2018.

C – Awards & Distinctions

- ***ACM Fellow (class of 2018),*** "for contributions to data processing and analytics, particularly data streaming, approximation, and uncertainty".

D – Funded Projects

- Current projects:

- H2020-ICT-2016 (Big Data PPP: Privacy-Preserving Big Data Technologies) Research and Innovation Action (RIA): "MHMD – My Health My Data" (2016-2019).
  Role: Work-Package Leader for WP5: Privacy-Preserving Data Analytics, for ATHENA RC

E – Professional service

- Conference Technical Program Committee service
  - ACM SIGMOD'2018, ACM PODS'2019, SDM'2018, UAI'2018, IEEE ICDM'2019 (Area Chair)

G – Advising

- Active graduate students supervised

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

    - Athanasios Giannopoulos and Dimitris Mouris (Univ. of Athens), "Privacy Preserving Medical Data Analytics using Secure Multi Party Computation. An End-To-End Use Case" M.Sc. Thesis, September 2018.

- Undergraduate students supervised

  - Diploma theses completed (supervisor)

    - Vassilis V. Digalakis ("Data Analytics with Differential Privacy", TUC, August 2018).

    - Christos Ziakas ("Implementation of Decision Trees for Data Streams on the Spark Streaming Platform", TUC, September 2018).

    - Nikolaos Kafritsas ("A Caching Platform for Large Scale Data-Intensive Applications", TUC, August 2019).

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For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Michail Lagoudakis
Rank: Associate Professor
Years in rank: 5
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Intelligent Systems Laboratory

A – Teaching

- Undergraduate courses taught

    - COMP 102: Structured Programming (mandatory, spring semester), co-taught with Assoc. Prof. Katerina Mania

    - COMP 402: Theory of Computation (mandatory, spring semester)

B – Publications

- Publications in refereed conferences

    - Published
        - Margarita Kotti, Vassilios Diakoloukas, Alexandros Papangelis, Michail G. Lagoudakis, and Yannis Stylianou, "A Case Study on the Importance of Belief State Representation for Dialogue Policy Management," Proceedings of Interspeech 2018, Hyberabad, India, September 2018, pp. 986–990.

D – Funded Projects

    - Current projects
        - "Basic Research in Statistical Spoken Dialogue Management", Toshiba Research Europe, Cambridge, UK.

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:**

  - Completed Diploma theses supervisor for
    1. **Christos Petridis**, defended on August 23, 2019, A Multi-Modal Q-Learning Approach using Normalized Advantage Functions and Deep Neural Networks
    2. **Georgios Vastardis**, defended on July 17, 2019, Auction-based Coordination for Task Allocation in Drone Teams
    3. **Nektarios Sfyris**, defended on July 17, 2019, Hybrid Visual Simultaneous Localization and Mapping (SLAM) on the Nao robot using ROS
    4. **Eleni Tsagkarogianni**, defended on June 21, 2019, Soccer Player Behavior Development for the RoboCup Standard Platform League
    5. **Konstantinos Chasapas**, defended on June 4, 2019, Detection of Disaster Events via Monitoring of Social Media
    6. **Ioannis Brellas**, defended on April 16, 2019, Simulation of Natural Disaster Response on Tangible Geographic Information Systems
    7. **Sotirios Dimitras**, defended on February 21, 2019, Design and Implementation of an Autonomous Robotic Vehicle for Mapping
    8. **Antonios Vogiatzis**, defended on February 15, 2019, Reinforcement Learning for Financial Portfolio Management
    9. **Konstantinos Chokias**, defended on October 22, 2018, Development of a Drone-Rover Docking System for Autonomous Transportation in Collaborative Missions
    10. **Dimitrios Kontzedakis**, defended on October 11, 2018, Adaptation of Action Space for Reinforcement Learning
    11. **Dimitrios Chatziparaschis**, defended on October 10, 2018, Aerial and Ground Robot Collaboration for Autonomous Mapping in Search and Rescue Missions
    12. **Nikolaos Sarantinoudis**, defended on September 26, 2018, Autonomous Navigation of an Electric Vehicle
    13. **Georgios Kotzampasakis**, defended on September 14, 2018, Coordinated Coverage in Sensor Networks via Reinforcement Learning
    14. **Theodoros Papadopoulos**, defended on January 12, 2018, Deep Learning Techniques for Detecting Crossroads in Satellite Images

  - Completed Ph.D. theses supervisor for

1. **Ioannis Rexakis**, defended on August 24, 2018, Doctorate awarded on September 26, 2018, Directed Exploration of Policy Space in Reinforcement Learning.

- **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>:

  - Completed
    1. Athina Georgara, MSc defended on August 1, 2019, Hedonic Games in the Real World: Machine Learning and Theoretical Extensions
    2. Ioannis Sifakis, MSc defended on May 30, 2019, Visualization of spatio-temporal processes on Google Maps
    3. Grigorios Kontadakis, MSc defended on June 21, 2018, Gamified 3D Orthopaedic Rehabilitation using Low-Cost and Portable Inertial Sensors
  - In Progress
    Various students

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Annual Activity Report Template

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Katerina Mania
Rank: Associate Professor
Years in rank: 6 years 3 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 418 - Computer Graphics (Spring 2019)
    - COMP 102 – Structured Programming (Spring 2019, co-taught with Assoc. Prof. Michail Lagoudakis)
    - COMP 101 – Introduction to Computers and Computer Science (Winter 2018)

- Graduate courses taught
    - COMP 603 – Visualization and Virtual Reality (Spring 2019)

- Curriculum & course development
    - Updated laboratory exercises for COMP 101
    - Updated large project work in platform UNITY3D as well as related laboratory material and exercises for COMP 418
    - Updated project work and exercises for COMP 418 in WEBGL
    - Updated large project work for COMP 603

B – Publications

- Publications in refereed journals

    - Published

- Koulieris, G. A., Akşit, K., Stengel, M., Mantiuk, R. K., Mania, K., & Richardt, C. (2019, May). Near-Eye Display and Tracking Technologies for Virtual and Augmented Reality. In Computer Graphics Forum (Vol. 38, No. 2, pp. 493-519).
- Panou, C., Ragia, L., Dimelli, D., & Mania, K. (2018). An architecture for mobile outdoors augmented reality for cultural heritage. ISPRS International Journal of Geo-Information, 7(12), 463.

- Publications in refereed conferences

  o Published

    - Giannaraki, M., Moumoutzis, N., Papatzanis, G., Kourkoutas, E., Mania, K. (2019). ADDventurous Rhythmical Planet: A 3D Rhythm-based Serious Game for Social Skills Development of Children with ADHD. In Proc. International Mobile Communication, Technologies and Learning 2019, 582-593, Springer.

    - Giannaraki, M., Moumoutzis, N., Papatzanis, G., Kourkoutas, E., Mania, K. (2019). A 3D Serious Game for Improving Social Skills of Children with ADHD via Multimodal Rhythm-centric Exercises. In Proc. ACM-W 1st Summit on Gender Equality in Computing, Greece.

    - Rempoulaki, A., Simantiraki-Grimshaw, A., Chalkiadakis, G., Sifniotis, M., Mania, K. (2019). 3D Visualization of Uncertainty in Minoan Archeological Reconstructions. In Proc. ACM-W 1st Summit on Gender Equality in Computing, Greece

D – Funded Projects

  o Project proposals submitted

    - ANCIENT KYDONIA HISTORY TOUR: Multimedia tour of ancient Kydonia through playful musical elements, using augmented reality technologies, call EYDE-ETAK 'Research-Create-Innovate', GSRT, PI
    - HAPTICS4SURGE: Haptic feedback in Virtual Reality Surgery Systems for Medical Education, call EYDE-ETAK 'Research-Create-Innovate, GSRT, PI
    - HNIOCHOS: Smart VR Driving Simulators, call EYDE-ETAK 'Research-Create-Innovate, GSRT, PI
    - CARE4AUTISM: Aiding the educational process for individuals with autism through the use of virtual, augmented reality technologies and speech-based interaction, call EYDE-ETAK 'Research-Create-Innovate, GSRT, PI

- o Project proposals funded

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

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 2019, co-chair of AR/VR program track

- ▪ Conference Technical Program Committee service - membership

    - o IEEE Virtual Reality 2019 full paper conference track program committee
    - o IEEE Conference on Games 2019
    - o ACM Symposium on Applied Perception 2018, 2019
    - o IEEE Int. Conf. in Games and Virtual Worlds for Serious Applications (VSGames), sponsored by IEEE, 2018, 2019
    - o GALA 2018, 2019 (Games and Learning Alliance Conference)
    - o GEC 2019 (Gender Equality Committee 2019)

- ▪ 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 Responsible for public relations for the School of ECE
    - o Studies' advisor for 1st year studies
    - o Participation in the University 'Science Day' for primary school children, October 2018
    - o Participation in the University 'Open Day' for high-school students, March 2019

G – Advising

- Active graduate students supervised

  - Graduate students supervised (in progress)

    - Adonis Paterakis 'Visualization based on Immersive Displays', M.Eng
    - Grigoris Daskalogrigorakis 'Guidance in Office Work Space employing Augmented Reality', M.Eng
    - Panos Drakopoulos 'Immersive Multi-modal Interaction for Complex Virtual Environments ', M.Eng
    - Giwrgos Tsiganis 'Intelligent Immersive Simulations and Visualization', M.Eng
    - Savvas Veziridis 'Immersive Simulation Environments and Serious Games for Training', M.Eng.
    - Katerina Malisova 'Conceptual 3D Visualization Methodologies', M.Eng

  - Ph.D. and M.Sc. Degrees in progress (committee member)
    1. Androulaki Theano (M.Eng. Architecture)

  - Diploma theses completed (supervisor)

    - Aggelos Marinakis 'Augmented Reality Application Featuring Interactive Geometric Transformations of 3D CAD Models'
    - Fotios Giariskanis 'ARCHIMUSIC3D: Real-Time Graphical System for Reciprocal Transformations between Music and Refined Urban Architectural Design'
    - Gregorios Daskalogrigorakis 'Holo-board: An Augmented Reality Application Manager supporting Machine Vision'
    - Artemis Georgakopoulou 'Development of an Interactive Projection Mapping System'
    - Konstantinos Kostis 'Web-based Decision Policy Definition and Simulation Application for the Gorgias Argumentation Framework'
    - Andreas Polychronakis 'Foveated Computer Graphics in Immersive Virtual Reality'

  - Diploma theses supervised (in progress)

    - Giannis Kritikos 'Interactive Documentary in Virtual Reality'
    - Alexandros Koukis 'A mobile app which Automates the Creation Process for the E-Shadow platform'
    - Georgios Gerodidis 'Development of 3D Animated Graphics in Unity based on Open-Source Motion Capture Data'
    - Anastasia Reboulaki 'Visualization of Uncertainty'

- Minas Katsiokalis 'Mobile Augmented Reality for the Visualization of Coastal Erosion based on GIS'
- Marina Giannaraki 'A Serious Game for the Improvement of Social Skills based on Music Rhythm'
- Michalis Methymakis 'An Input Architecture for Hands Interaction for Immersive Virtual Reality Applications based on Mobile Platforms
- Michalis Efraimidis 'Wireless Embedded System based on a Glove for Hand Tracking and Sense of Touch in 3D Environments'
- Antonis Danas 'Interactive Implementation of Missions based on Graphics in Unity3D'

o Diploma theses completed (committee member)
- Evaggelos Vatikiotis
- Anastasios Chatziioannou

o Diploma theses in progress (committee member)
- Konstantinos Politsis
- Marios Mavrakis

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Euripides G.M. Petrakis
Rank: Professor
Years in rank: 6
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 605 : Special Topics in Information Systems

- 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

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

B – Publications

- Publications in refereed journals

- Submitted:
  - Many

- Accepted:
  - See below

- Published:
  - **Euripides G.M. Petrakis**, Filippos Antonopoulos, Stelios Sotiriadis, Nik Bessis, "iPACS: A Physical Access Control System as a Service and Mobile Application", Ambient Intelligence and Humanized Computing (JAIHC), January 2019.

  - **Euripides G.M. Petrakis**, Stelios Sotiriadis, Theodoros Soultanopoulos, Pelagia Tsiachri Renta, Rajkumar Buyya, Nik Bessis, "*Internet of Things as a Service (iTaaS): Challenges and Solutions for Management of Sensor Data on the Cloud and the Fog*", Internet of Things, Vol. 3-4, pp. 156-174, October 2018 (*).

  - Konstantinos Douzis, Stelios Sotiriadis, **Euripides G.M. Petrakis**, Christiana Amza, "*Modular and Generic IoT Management on the Cloud*", Future Generation Computer Systems (FGCS), 78: pp. 369–378, 2018 (*).

- Publications in refereed conferences

  - Accepted:
    - See below

  - Published:
    - **Euripides G.M. Petrakis**, Stelios Sotiriadis, Theodoros Soultanopoulos, Pelagia Tsiachri Renta, Konstantionos Tsakos, "The Role and Prospects of IoT and Cloud Computing in Remote Health Monitoring", 19th International Conference on Bioinformatics and Bioengineering (BIBE 2019), Athens, Greece, October 28-30, 2019.

    - George Myrizakis, **Euripides G.M. Petrakis**, "*iHome: Smart Home Management as a Service in the Cloud and the Fog*", 33rd International Conference on Advanced Information Networking and Applications (AINA-2019), Kunibiki Messe, Matsue, Japan, March 27-29, 2019.

    - Konstantinos Tsakos, **Euripides G.M. Petrakis**, "*Service Oriented Architecture for Interconnecting LoRa Devices with the Cloud*", 33rd International Conference on Advanced Information Networking and Applications (AINA-2019), Kunibiki Messe, Matsue, Japan, March 27-29, 2019.

- Christos Christodoulopoulos, **Euripides G.M. Petrakis**, "*Commodore: Fail Safe Container Scheduling in Kubernetes*", 33rd International Conference on Advanced Information Networking and Applications (AINA-2019), Kunibiki Messe, Matsue, Japan, March 27-29, 2019.

- Panagiotis Konstantopoulos, **Euripides G.M. Petrakis**, Stelios Sotiriadis, "*iNaaS: Indoors Navigation as a Service on the Cloud and Smartphone Application*", The 39th IEEE Sarnoff Symposium 2017 (IEEE SARNOFF 2018), New Jersey Institute of Technology Conference Center, Newark, New Jersey, USA, September 24–25, 2018.

- Books and edited book chapters

  - George Myrizakis and **Euripides G.M. Petrakis: "*iHome: Secure Smart Home Management in the Cloud and the Fog*", Edge Computing for Massive Parallel Processing of IoT Data Streams, Fatos Xhafa, Arun Kumar Sangaiah (Eds), in Advances in Parallel Computing Series, IOS Press, 2019.

C – Awards & Distinctions
  - IEEE Senior Member, June 2019

D – Funded Projects

- Current projects:
  - 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:
  - Several proposals submitted in various Horizon2020, ESPA, Intereg Calls

E – Professional service

- Society Technical Committee duties

  - Conference Technical Program Committee service
  - Program Committee (PC) member, 19th International Conference on Web Engineering (ICWE), 2019-2020 (*each year*).
  - Technical Program Committee (TPC) member and session chair, IEEE Bioinformatics and Bioengineering (IEEE BIBE), 2015 & 2019.
  - Technical Program Committee (TPC) member, IEEE Sarnoff Symposium (IEEE SARNOFF), NJ, USA, 2016-2019 (*each year*).

- o Program committee (PC) member, Intern. Symposium on Visual Computing (ISVC), 2005–2019 (*each year*).
    - o IoT Track Chair, 9th Intern. Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN–2018), 2018-2019 (*each year*).
    - o Organizer of [ADON 2018: International Workshop on Anomaly Detection ON the Cloud and the Internet of Things](), December 10, 2018, as part of IEEE CloudCom 2018, 11-13 December 2018, Hilton Cyprus, Nicosia, Cyprus
    - o Program Committee (PC) member, Ambient Intelligence and Humanized Computing Journal, special issue JAIHC-SI 18, 2019.
    - o Program Committee (PC) member, IoT Track, 9th Intern. Conference on Ambient Systems, Networks and Technologies (ANT 2018), May 8–11, 2018, Porto, Portugal.

- Conference Organization (specify role)
    - o Organizer of [ADON 2018: International Workshop on Anomaly Detection ON the Cloud and the Internet of Things](), December 10, 2018, as part of IEEE CloudCom 2018, 11-13 December 2018, Hilton Cyprus, Nicosia, Cyprus
    - o IoT Track Chair, 9th Intern. Conference on Emerging Ubiquitous Systems and Pervasive Networks (EUSPN–2018), 2018-2019 (*each year*).

    - Reviewing activities
    - o Reviewer for Several conferences / journals

F – Service to the School and the University

- School responsibilities
    - o Laboratory Director, Intelligent Systems Laboratory, Department of Electronic and Computer Engineering, Technical University of Crete
    - o Member of the Board, [Telecommunication Research Institute]()
    - o Research Committee, [Technical University of Crete]() (TUC), elected from faculty body (2019 – *today*)

G – Advising
- Active graduate students supervised

    - o Ph.D. and M.Sc. students supervised (advisor, completed)
        - Mainas Nikolaos (M.Sc)

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

- Kargatzis Dimitris (M.Sc.)
- Tsakos Konstantinos (M.Sc)
- Aimilios Tzavaras (M.Sc)

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

o Ph.D. and M.Sc. Degrees (committee member)
- Livanos Georgios (towards Ph.D)
- Malandrakis Nikolaos (towards Ph.D)
- Moirogiorgou Konstantia (towards Ph.D)
- Oikonomidis Dimitrios (towards Ph.D)
- Rexakis Ioannis (towards Ph.D)
- Chorianopoulou Arodami (towards M.Sc.)
- Giannoudaki Maria (towards M.Sc.)
- Kydonakis Aris (towards M.Sc.)
- Pitsiladis Andreas (towards M.Sc.)
- Trohatou Ioanna (towards M.Sc.)
- Xifaras Konstantinos (towards M.Sc.)
- Hliaoutakis Angelos (towards Ph.D)

- Undergraduate students supervised

  o Diploma theses in progress (supervisor)
  - Myrizakis George
  - Tzavaras Aimilios
  - Karageorgiou Kaneen Christos
  - Karavasileiou Aikaterini
  - Grigoraki Vasiliki
  - Botonakis Stelios
  - Neofytos Zacharia
  - Alexiou Michael
  - Kostalia Elli
  - Koundourakis Xenofon

  o Diploma theses completed (supervisor)
  - Christodoulopoulos Christos
  - Myrizakis George
  - Konstantopoulos Panagiotis
  - Tsakos Konstantinos

  o Diploma theses in progress (committee member)
  - Pogas Nektarios
  - Doko Aneza
  - Syrigos Demetrios

- Gligoris Georgios

- Diploma theses completed (committee member)
  - Panou Christos
  - Konstandinidi Panagiota
  - Polydorou Alexios

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Vasilis Samoladas
Rank: Assistant Professor
Years in rank: 12 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 420 : Principles of Distributed Software Systems
    - o COMP 416 : Computational Geometry

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

    - o COMP 616 : Computational Geometry (Offered jointly with COMP 416)

B – Publications

- Publications in refereed journals
    - o Published:
        - ▪ Nikos Giatrakos, Antonios Deligiannakis, Minos N. Garofalakis, Daniel Keren, Vasilis Samoladas: Scalable approximate query tracking over highly distributed data streams with tunable accuracy guarantees. Information Systems (76): 59-87 (2018)

E – Professional service

- Conference Technical Program Committee service
  - *KDIR-2018 International Conference on Knowledge Discovery and Information Retrieval*
  - *EUSPN-18 International Conference on Emerging Ubiquitous Systems and Pervasive Networks*
  - *CCS-2018 Conference on Complex Systems*

G – Advising

- Active graduate students supervised

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

- Undergraduate students supervised

  - Diploma theses in progress
    - Kabioti S.
    - Balabanis I.
    - Epoure E.
    - Barakos P.
    - Seisaki E.

  - Diploma theses completed (supervisor)
    - Konidaris V.

Technical University of Crete

School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Costas Balas
Rank: Professor
Years in rank: 4
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)

B – Publications

- Publications in refereed journals

    - Published:

- C. Balas, G. Epitropou, A. Tsapras, N. Hadjinicolaou, *"Hyperspectral Imaging and Spectral Classification for Pigment Identification and Mapping in Paintings by El Greco and his Workshop"* in Multimedia Tools and Applications pp 1-17 (spinger), 2018
- Vourlaki, C. Balas, G. Livanos, M. Vardoulakis, G. Giakos, M. Zervakis *Bootstrap clustering approaches for organization of data: Application in improving grade separability in cervical neoplasia*, Biomedical Signal Processing and Control, 49, 263-273, Elsevier 2018

- Patents

- o C. Balas "A HYBRID SPECTRAL IMAGER" USA provisional Patent 62713019, 2018.

D – Funded Projects

- Current projects:
    - o "SEA.VIEW.NET - REAL TIME MEASUREMENT AND PUBLICATION ON THE WEB OF THE SUBSEA WATER CLARITY IN THE AREAS OF TOURIST INTEREST OF CRETE THROUGH INNOVATIVE DEVICES NETWORK" funded by Region of Crete
    - o INSPECT - INteligent SPEctral Camera Technology funded by NSRF 2014-2010 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE" (QCELL)

- Project proposals submitted:
    - o PhotonPharma - Enabling real time release testing through miniaturized PHOTONic-based spectroscopic sensing in continuous PHARMAceutical tablet manufacturing line, H2020-ICT-2018-2020
    - o BATHYPELAGUS - Unmanned, Underwater, Cooperative Robotic Vehicles for Autonomous Bathy Pelagic Extended Surveying Activities, H2020-ICT-2018-2020
    - o WATSON - Wide Analysis of TraceS Of criminal Nature, H2020-SU-SEC-2018-2019-2020
    - o CoinLab - Computer Vision and Hyperspectral Microscopy. Techniques for Documentation and Preservation of Numismatic Collections, NSRF 2014-2010 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE"
    - o ARION – Intelligent Guide to Self-Management and Support of Patients with Chronic Allergic Rhinitis, NSRF 2014-2010 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE"
    - o HyperMantis – Development of a hyperspectral imaging multi-modal microscope for forensics applications, NSRF 2014-2010 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE"
    - o i-blueCulture – A novel 3D framework providing insuperable and real-time experience within live streaming, NSRF 2014-2010 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE"
    - o i-diveBuddy, Novel AUV and 3D/VR/AR Services for Underwater Environments, NSRF 2014-2010 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE"
    - o S.D.M.V. – smart monitoring System to support precision Disease Management in Viticulture, NSRF 2014-2010 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE"

- PINA, Development of an innovative diagnostic control system for the production of high-quality clean marine fuels, NSRF 2014-2010 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE"
- XMMaS-Development of a coherent X-ray multispectral microscopy system, NSRF 2014-2010 Competitiveness, Entrepreneurship & Innovation, Action "RESEARCH - CREATE - INNOVATE"

E – Professional service

- Associate Editor duties

  - Guest editor Special Issue "Hyper- and Multi-Spectral Imaging" in Applied Sciences
  - Editorial Board member Journal of Applied Sciences
  - Editorial Board member Journal of Applied Sciences

- Conference Technical Program Committee service
  - Steering committee member in the 2018 IEEE International Conference on Imaging Systems and Techniques Kraków, Poland, October 16-18, 2018
  - Organizing committee member in the European Life Science Innovation and Biomed Technology Congress" October 24-25, 2018 at London, UK

- Conference Organization (specify role)

- Reviewing activities
  - More than 10 reviews of Journal papers

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)
    - Papathanasiou Athanasios (M.Sc.)

- Ph.D. and M.Sc. students supervised (advisor, in progress)
  - Markellos Dimitrios (Ph.D.)
  - Petrantonaki Maria (Ph.D.)
  - Rossos Christos (Ph.D.)
  - Tsapras Athanasios (Ph.D.)
  - Epitropou Giorgos (M.Sc.)
  - Chatziioannou Anastasios (M.Sc.)
  - Logothetis Fragkoulis (M.Sc.)

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

- Ph.D. and M.Sc. Degrees (committee member)
  - Makris Nikolaos (Ph.D.)
  - Nikolaou Aristides (Ph.D.)
  - Kostopoulos Konstantinos (M.Sc.)

- Undergraduate students supervised

  - Diploma theses in progress
    - Emmanouilidis Konstantinos
    - Karatsoris Herodotos
    - Vogiatzis Konstantinos
    - Pediaditis Dimitrios
    - Zacharopoulou Iliana
    - Mavrakis Marios
    - Spyridaki Styliani

  - Diploma theses completed (supervisor)
    - Kyriakopoulos Kosmas
    - Tontou Nikoletta
    - Papadogiannis Sevastianos
    - Pouros Spyridon
    - Boras Charalabos
    - Chatziioannou Anastasios
    - Georgiou Georgios
    - Karibidis Dionysios
    - Logothetis Fragkoulis
    - Vastaroucha Stergiani
    - Christodoulou Theofilos

  - Diploma theses in progress (committee member)
    - Apostolakis Apostolos

- Drakos Vissarios
- Gegkios Nikolaos
- Gompaki Efstathia
- Kokkonas Dimitrios
- Pappas Nikolaos
- Polychronakis Andreas
- Gkouvatsos Nikolaos
- Mouzakitis Nikolaos

o Diploma theses completed (committee member)
  - Tiriakidis Nikolaos
  - Stoikotidis Stamatis
  - Diamantis Christos

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Matthias Bucher
Rank: Associate Professor
Years in rank: 5
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 2018)
  - ECE 416 – Design of CMOS Analog Integrated Circuits (Spring 2019)

- Graduate courses taught
  - ECE 604 – Special Themes of CMOS Analog Integrated Circuit Design (Spring 2019)

- Labs taught
  - ECE 301 – Electronics II (Fall 2018)
  - ECE 416 – Design of CMOS Analog Integrated Circuits (Spring 2019)

B – Publications

- Publications in refereed journals
  - Submitted:
    - N. Makris, **M. Bucher**, F. Jazaeri, J.-M. Sallese, "CJM: A Compact Model for Double Gate Junction FETs", *(Invited, Special Issue on ESSDERC 2018), IEEE Journal of the Electron Devices Society*.
  - Accepted:

- N. Makris, K. Zekentes, **M. Bucher**, "Compact modeling of SiC and GaN Junction FETs at high temperature", *Materials Science Forum*, 2019.
  - o Published:
    - N. Makris, K. Zekentes, **M. Bucher**, "Compact modeling of SiC and GaN Junction FETs at high temperature", *Materials Science Forum*, vol. 963, pp. 683-687, 2019. https://doi.org/10.4028/www.scientific.net/MSF.963.683

- Publications in refereed conferences
  - A. Nikolaou, L. Chevas, A. Papadopoulou, N. Makris, **M. Bucher**, G. Borghello, F. Faccio, "Forward and reverse operation of enclosed-gate MOSFETs and sensitivity to high total ionizing dose", *26th IEEE Int. Conf. on Mixed Design of Integrated Circuits and Systems (MIXDES)*, pp. 306-309, Rzeszow, Poland, June 27-29, 2019. ieeexplore
  - A. Papadopoulou, N. Makris, L. Chevas, A. Nikolaou, **M. Bucher**, "Design of CMOS OTAs in 65 nm CMOS for High Total Ionizing Dose Effects", *8th IEEE Int. Conf. on Modern Circuits and Systems Technologies (MOCAST)*, pp. 1-4, Thessaloniki, Greece, May 13-15, 2019. ieeexplore
  - N. Makris, **M. Bucher**, "JFETLAB – An Online Simulation Tool for Double Gate Junction FETs", *7th Int. Conf. on Micro-Nanoelectronics, Nanotechnologies and MEMS (Micro&Nano)*, Thessaloniki, Greece, Nov. 5-7, 2018.
  - A. Papadopoulou, L. Chevas, A. Nikolaou, N. Makris, **M. Bucher**, "Weak Inversion Ring Oscillator Design Study in 65nm CMOS Technology under Total Ionizing Dose Effects", *7th Int. Conf. on Micro-Nanoelectronics, Nanotechnologies and MEMS (Micro&Nano)*, Thessaloniki, Greece, Nov. 5-7, 2018.
  - L. Chevas, M.-I. Iosifidis, N. Makris, **M. Bucher**, "Electrical Behavior of Commercial Discrete Power VDMOS Transistors and their Compact Modelling", *7th Int. Conf. on Micro-Nanoelectronics, Nanotechnologies and MEMS (Micro&Nano)*, Thessaloniki, Greece, Nov. 5-7, 2018.
  - A. Nikolaou, **M. Bucher,** N. Makris, A. Papadopoulou, L. Chevas, G. Borghello, H. D. Koch, F. Faccio, "Modeling of High Total Ionizing Dose (TID) Effects for Enclosed Layout Transistors in 65 nm Bulk CMOS", **BEST PAPER AWARD**, *41st IEEE Int. Semiconductor Conf. (CAS)*, Sinaia, Romania, Oct. 10-12, 2018. ieeexplore
  - N. Makris, **M. Bucher**, F. Jazaeri, J.-M. Sallese, "A compact model for static and dynamic operation of symmetric double-gate junction FETs", *48th European Solid-State Device Research Conf. (ESSDERC)*, pp. 238 – 241, Dresden, Germany, Sept. 3-6, 2018. ieeexplore
  - N. Makris, K. Zekentes, **M. Bucher**, "High-temperature compact modeling of SiC and GaN junction FETs", *12th European Conf. on Silicon*

Carbide and Related Materials (ECSCRM), Birmingham, United Kingdom, Sept. 2-6, 2018.

C – Awards & Distinctions

- The paper "N. Makris, **M. Bucher**, F. Jazaeri, J.-M. Sallese, A compact model for static and dynamic operation of symmetric double-gate junction FETs, *Proc. European Solid-State Device Research Conference (ESSDERC),* Dresden, Germany, Sept. 3-6, 2018." was among the top rated papers of the conference, and was invited to be published in an extended version in the Special Issue on ESSDERC 2018, *IEEE Journal of the Electron Devices Society (J-EDS)*.

- **BEST PAPER AWARD**, A. Nikolaou, **M. Bucher,** N. Makris, A. Papadopoulou, L. Chevas, G. Borghello, H. D. Koch, F. Faccio, "Modeling of High Total Ionizing Dose (TID) Effects for Enclosed Layout Transistors in 65 nm Bulk CMOS", *Proc. 41st IEEE International Semiconductor Conference (CAS)*, Sinaia, Romania, Oct. 10-12, 2018.

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 – 3/2021.
  - *Compact Modelling of Ionizing Radiation Effects in Advanced CMOS Technology.* The ongoing update of high-energy physics experiments at CERN (High Luminosity – Large Hadron Collider – HL-LHC) requires electronic sensing equipment to withstand extreme Total Ionizing Doses (TID) up to 1Grad. Funding Agency: CERN, Geneva, Switzerland. Duration: 11/2017-5/2019. Principal Investigator.

- Project proposals submitted:
  - ΕΠΑνΕΚ 2014-2020 «Ερευνώ-Δημιουργώ-Καινοτομώ»
- Development of Electronics Laboratory infrastructure:
  - Cadence IC & System software.
  - Keysight ADS and IC-CAP software.

E – Professional service

- Member of the Board, Micro-& Nano Scientific Society (micro-nano.gr), Greece.
- Conference Technical Programme Committee service
  - *TPC member, 8th Int. Conf. on Modern Circuits and Systems Technologies (MOCAST 2019).*
  - *TPC member, 26th Int. Conf. on Mixed Design of Integrated Circuits and Systems (MIXDES 2019).*
  - *TPC member, PAnhellenic Conference on Electronics & Telecommunications (PACET 2019).*
- Reviewing activities
  - *IEEE Transactions on Electron Devices*
  - *IEEE Journal of the Electron Devices Society*
  - *Solid-State Electronics*

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.

G – Advising

- Graduate students supervised
  - Ph.D. students supervised (supervisor):
    - Nikos Makris. Enrollment: Dec. 2015.
    - Aristeidis Nikolaou. Enrollment: June 2018.
  - Ph.D. students co-supervised:
    - Dimitrios Markellos
  - M.Sc. students supervised (supervisor):
    - Alexia Papadopoulou, Enrollment: Sept. 2016.
    - Angelos Papadimitriou, Enrollment Feb. 2017.
    - Loukas Chevas, Enrollment: July 2017.
- Undergraduate students supervised
  - Diploma theses completed (supervisor):
    - Michael Iosifidis, Electrical Characterization and Compact Modeling of Power D-MOSFETs, Oct. 2018.
  - Diploma students (supervisor):
    - Georgios Fousteris, Characterization and modeling of LDMOSFETs.

- Apostolos Apostolakis, Design of low voltage, low power CMOS analog integrated circuits under radiation.
- Stamatis Stoikotidis, Tool for statistical noise data analysis in CMOS technology.
- Christos Diamantis, Characterization of statistical variability of enclosed gate nMOSFETs.
- Vissarion Drakos, Characterization of statistical variability of enclosed gate pMOSFETs.
- Dimitrios Kokkonas, Experimental and analytical study of scaling in advanced CMOS technologies.
- Nicolas Gegios, Analysis of analog and RF Figures-of-Merit of CMOS technology.

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Apostolos Dollas
Rank: Professor
Years in rank: 18
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Microprocessor and Hardware Laboratory

A – Teaching

- Undergraduate courses taught
    - ACE 101:   Logic Design (mandatory)
    - ACE 203 :   Advanced Logic Design (mandatory)
    - ACE 411:   Microprocessor-Based Embedded Systems 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 the labs and projects of ACE 411(11 projects, all fully implemented).

- 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 conferences (Published)

- N. Kyparissas, A. Dollas, "Field Programmable Gate Array Technology as an Enabling Tool Towards Large-Neighborhood Cellular Automata on Cells with Many States", In Proceedings of the 2019 International Conference on High Performance Computing & Simulation (HPCS)/The 5th Workshop on Cellular Automata Algorithms & Architectures (CAAA 2019), Jul. 5-7, Dublin, Ireland, IEEE Press.
- Aggelos D Ioannou, Pavlos Malakonakis, Konstantinos Georgopoulos, Ioannis Papaefstathiou, Apostolos Dollas, Iakovos Mavroidis, Optimized FPGA Implementation of a Compute-Intensive Oil Reservoir Simulation Algorithm, Proceedings of the 19th International Conference on Embedded Computer Systems: Architectures, Modeling and Simulation (SAMOS XIX), pp. 442-454, Samos, Greece, July 7-11, 2019.
- G. Pitsis, G. Tsagkatakis, C. Kozanitis, I. Kalomoiris, A. Ioannou, A. Dollas, M. GH Katevenis, and P. Tsakalides. Efficient Convolutional Neural Network Weight Compression for Space Data Classification on multi-FPGA Platforms. In Proceedings of the 2019 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Brighton, UK, May 12-17, IEEE, 2019.
- G. Kalomoiris, G. Pitsis, G. Tsagkatakis, A. Ioannou, C. Kozanitis, A. Dollas, P. Tsakalides and M. GH Katevenis. An Experimental Analysis of the Opportunities to Use Field Programmable Gate Array Multiprocessors for On-Board Satellite Deep Learning Classification of Spectroscopic Observations from Future ESA Space Missions, In Proceedings of the European Workshop on On-Board Data Processing (OBDP), European Space Research and Technology Centre (ESTEC), Amsterdam, Feb. 25-27, 2019.

C – Awards & Distinctions

- Steering Committee member, IEEE/ACM 29th International Symposium on Field Programmable Logic (FPL), Barcelona, Spain, Sep. 9-13, 2019.

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 Projects:

- o Senior Research Associate in the projects ExaNeSt and EuroEXA (CARV group, ICS/FORTH), RURAL (TUC).

E – Professional service

- Conference Technical Program Committee service
  - o Steering Committee and Program Committee member, IEEE/ACM 29th International Symposium on Field Programmable Logic (FPL), Barcelona, Spain, Sep. 9-13, 2019.
  - o Program Committee Member, 2018 International Conference on Field-Programmable Technology (FPT, IEEE Sponsored), Naha, Okinawa, Japan, Dec. 10 - 14, 2018.
  - o Program Committee Member, 2019 IEEE Symposium on Bioinformatics and Bioengineering (BIBE), Athens, Greece, 2019.

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
  - o 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
  - o Faculty Advisor to the 1st semester students
  - o Member of staff election boards (TUC)
  - o Member of faculty election boards at:
    - o the Technical University of Crete
    - o the University of Ioannina
    - o the Technological Educational Institute of the Peloponnese
  - o Member of Research Staff Election at:
    - o Institute of Computer Science, FORTH
  - o Member of Ph.D. Examination Committee at:
  - o The National Technical University of Athens
  - o Member of the Student Placement Committee, supervising the examination in the subject of Logic Design for graduates from other Departments who want to enroll at ECE.
  - o Speaker at the Summer School of the BEST Student Organization, delivering a lecture on "Microcontrollers and Microprocessors in Embedded Systems for Earth Observation", Summer School "Drones vs. Satellites", BEST Chania, July 11, 2019.

G – Advising

- Active graduate students supervised

  - Ph.D. and M.Sc. theses completed (supervisor)
    - Kyriakidis Konstantinos (M.Sc.)

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Ioannou Aggelos (Ph.D.)
    - Malakonakis Pavlos (Ph.D.)
    - Giakoumakis Pavlos (M.Sc.)

  - Ph.D. and M.Sc. Degrees completed (committee member)
    - Maragos Konstantinos (Ph.D. – NTUA)
    - Malavazos Konstantinos (M.Sc.)
    - Miteloudi Konstantina (M.Sc.)

  - Ph.D. and M.Sc. Degrees in progress (committee member)
    - Brokalakis Andreas (Ph.D.)
    - Charitopoulos Georgios (Ph.D.)
    - Vatsolakis Charalampos (Ph.D.)
    - Amourgianos-Lorentzos Vasilios (M.Sc.)
    - Linardos Christos (M.Sc. – MRED/TUC)
    - Malavazos Konstantinos (M.Sc.)
    - Savvakos Charalampos (M.Sc.)
    - Tsakaneli Stavroula (M.Sc.)

- Undergraduate students supervised

  - Diploma theses in progress (supervisor)
    - Badogiannis Nikolaos
    - Chatzidaki Eleftheria
    - Fotakis Tzanis
    - Foteinopoulos Georgios
    - Iliaki Anastasia
    - Kalomiris Ioannis
    - Kasfikis Konstantinos
    - Konstantopoulos Konstantinos
    - Kordas Sotiris
    - Kyparissas Nikolaos
    - Loukas Charisios
    - Lykos Emmanouil
    - Marinaki Eftihia
    - Pitsis Antonios-Georgios

- Sotiropoulos Antonios
- Souflakis Emmanouil
- Theodoroglaki Ioanna
- Toupas Petros
- Vailakis Apotolos
- Zacheilas Theofilos

- Diploma theses completed (supervisor)
  - Fragiadakis-Theodorouleas Michail
  - Koutroumanos Panagiotis
  - Maragkou Sofia
  - Pitsis Antonios Georgios
  - Toupas Petros

- Diploma theses in progress (committee member)
  - Iskis Nikolaos
  - Katsoudas Panagiotis
  - Morianos Ioannis
  - Paspalakis Stavros

- Diploma theses completed (committee member)
  - Dimitras Sotirios
  - Georgiadis Vasilios
  - Miliadis Panagiotis
  - Rekoumis Dimitrios

Technical University of Crete
School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Fotios D. Kanellos
Rank: Associate Professor
Years in rank: 1
Full-time or part-time: Full-time
Division:
Lab affiliation: Electric Energy Systems

A – Teaching

- Undergraduate courses taught
    - ENE 401 : Analysis of Electrical Installations and Electric Energy Systems (mandatory)
    - ENE 412 : Analysis of Electric Power Systems
    - ACE 419 : Power Electronics

- Labs taught
    - ACE 419 : Power Electronics
    - ENE 412 : Analysis of Electric Power Systems

B – Publications

- Publications in refereed journals
    - Published:
        - Arnaoutakis, N., Kanellos, F., Papaefthimiou, S., "Combined operation, modeling and life cycle assessment of a generic hybrid power system installed in Crete", (2018) Energy Systems, 9 (2), pp. 343-359

C – Awards & Distinctions
   - Best paper award for the article: Fotis D. Kanellos, Amjad Anvari-Moghaddam, Josep M Guerrero, "Smart Shipboard Power System Operation and Management", Inventions, Multidisciplinary Digital Publishing Institute, vol. 1, issue 4, 2016.
   - Certificate of outstanding contribution in Reviewing: Ocean Engineering Journal, Elsevier.
   - Certificate of outstanding contribution in Reviewing: Solar Energy Journal, Elsevier.

E – Professional service

- Reviewing activities
    - IEEE Transactions on Power Systems
    - IEEE Transactions on Smart Grid
    - IEEE Systems Journal
    - IEEE Transactions on Sustainable Energy
    - Electric Power Systems Research, Elsevier
    - Engineering Applications of Artificial Intelligence Journal, Elsevier
    - Transportation Research Part D Journal, Elsevier
    - Ocean Engineering Journal, Elsevier

F – Service to the School and the University

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

- University responsibilities
    - Member of several evaluation and technical committees of TUC

G – Advising

- Active graduate students supervised

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

- Undergraduate students supervised

    - Diploma theses in progress (supervisor)
        - Christofolakis Tryfon
        - Pitta Eleni
        - Rampias Sarantis
        - Goumagias Konstantinos
        - Karandinou Ekaterini-Agapi
        - Farinis George
        - Psarakis Ioannis
        - Palialeksis Konstantinos
        - Chatzioannidis Lazaros

    - Diploma theses completed (supervisor)

    - Diploma theses in progress (committee member)
        - Tsaparas Christos
        - Konidari Iro
        - Vardaksis Ioannis
        - Saoulis Lampros
        - Mavrovatis Stylianos

- Sdoukos Thomas
- Litsios Sotirios
- Rousakis Skouloudis
- Moraitis Ioannis
- Konstantinidou Antri
- Lagoudakis Marios
- Ioannou Vassilios
- Saloustros Vassilios
- Genetzakis Georgios
- Koutsaki Eleni
- Stasinos Apostolos

- Diploma theses completed (committee member)
  - Tsamoudalis Konstantinos

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Eftichios Koutroulis
Rank: Associate Professor
Years in rank: 3
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 102: Basic Circuit Theory (mandatory)
    - ACE 511: VLSI and ASIC Systems Design
    - ACE 515: Electronic Energy Management Systems

- Graduate courses taught

    - ACE 601: VLSI and ASIC Systems Design (Offered jointly with ACE 511)
    - ENE 602: Electronic Energy Management Systems
        (Offered jointly with ACE 515)

- Curriculum & course development

    - Lecture notes / slides developed
        - ACE 102 - Basic Circuit Theory: updated the existing slides
        - ACE 511 - VLSI and ASIC Systems Design: updated the existing slides
        - ACE 515 - Electronic Energy Management Systems: updated the existing slides & developed new slides

B – Publications

- Publications in refereed journals
    - Published:

- E. Koutroulis, Y. Yang, F. Blaabjerg, "Co-Design of the PV array and DC/AC inverter for maximizing the energy production in grid-connected applications", *IEEE Transactions on Energy Conversion*, vol. 34, no. 1, pp. 509-519, 2019.

- E. Koutroulis, N. Sason, V. Georgiadis, "Combined tracking of the maximum power and maximum efficiency operating points for real-time maximization of the energy production of PV systems", *IEEE Transactions on Power Electronics*, vol. 34, no. 9, pp. 8634-8645, 2019.

- Publications in refereed conferences
  - Published:
    - E. Koutroulis, G. Petrakis, D. Hristopulos, A. Tripolitsiotis, N. Halouani, A. B. Naceur, P. Partsinevelos, "Geo-informatics for optimal design of desalination plants using Renewable Energy Sources: the DESiRES platform paradigm", *1st Springer Conference of the Arabian Journal of Geosciences (CAJG-2018)*, pp. 53-55, 2018.

C – Awards & Distinctions

- Sectorial Scientific Council on Energy / National Council for Research and Innovation (NCRI), Replacement member (since April 2018).

D – Funded Projects

- Current projects:

  - DES^2iRES project, ERANETMED "Energy-Water Nexus": Project Coordinator.
  - SmartPV project, "Research - Create - Innovate" call: Project Coordinator.
  - PERPS project, "Research - Create - Innovate" call: Research team member.

- Project proposals approved for funding:

  - eSOLAR project, "Greece-China Co-operation" GSRT call: Project Coordinator.

E – Professional service

- Associate Editor duties

- o Guest Editor, *IEEE Access*: Special Section on "Advanced Sensor Technologies on Water Monitoring and Modeling".

- o Associate Editor of the *"Renewable Energy and Environmental Sustainability"* journal (publisher: EDP Sciences).

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

- Conference Technical Program Committee service

  - o Program Committee member, "8th International Conference on Modern Circuits and Systems Technologies (MOCAST)", 13-15 May 2019, Thessaloniki, Greece.

  - o Track Chair and Scientific Committee member, "13th International Conference of the IMACS TC1 Committee (ELECTRIMACS 2019)", 21-23 May 2019, Salerno, Italy.

- Reviewing activities

  - o Performed 26 reviews of journal papers (including revisions) for:

    IEEE Transactions on Power Electronics
    IEEE Transactions on Energy Conversion
    IEEE Transactions on Industrial Electronics
    IEEE Transactions on Instrumentation & Measurement
    IET Power Electronics
    Renewable Energy
    Desalination

  - o Reviewed 1 book proposal for Springer.

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 Board of Directors of the Telecommunication Systems Research Institute
  - o ECE School coordinator of the ERASMUS+ program
  - 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

G – Advising

- Active graduate students supervised

  - o Ph.D. and M.Sc. theses in progress (supervisor)
    1. Mandourarakis Ioannis (Ph.D.)
    2. Malisovas Athanasios (M.Sc.)
    3. Vardaxis Ioannis (M.Sc.)

- Undergraduate students supervised

  - o Diploma theses in progress (supervisor)
    1. Mikel Ropi
    2. Tsaparas Christos
    3. Mavrommatis Stylianos
    4. Stasinos Apostolos
    5. Constantinidou Andria
    6. Vrouvakis Ioannis
    7. Almpantis Anastasios
    8. Sdoukos Thomas
    9. Kalogerakis Christos
    10. Iskis Nikolaos
    11. Glykis Theodoros
    12. Papargiriou Athanasios
    13. Tepelidis Avraam
    14. Kosmopoulos Stefanos
    15. Petrakis Emmanuel
    16. Politis Vasilios
    17. Koukouzas Christos
    18. Vatsithianos Nikolaos

  - o Diploma theses completed (supervisor)
    1. Dimitriadis Konstantinos
    2. Georgiadis Vasilios
    3. Dimitriou Georgios

Technical University of Crete

School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: George S. Stavrakakis
Rank: Full Professor
Years in rank: 24
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 (mandatory)
    - ENE 511: Renewable Energy Sources

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

- Labs taught
    - Introduction to Power Systems (ENE 301)
    - Renewable Energy Sources (ENE 511)

- Curriculum & course development
    - Introduction to Power Systems (ENE 301)
    - Renewable Energy Sources (ENE 511)

B – Publications

- Publications in refereed journals

    - Submitted : 3

    - Accepted : 2

    - **Published : 2**

● KONSTANTINOS BLAZAKIS & GEORGIOS STAVRAKAKIS, **"Efficient power theft detection for residential consumers using mean shift data mining knowledge discovery process"**, International Journal of Artificial Intelligence and Applications (IJAIA), Vol.10, No.1, January 2019.

● NEOFYTOS NEOFYTOU, KONSTANTINOS BLAZAKIS, YIANNIS KATSIGIANNIS, GEORGIOS STAVRAKAKIS, "**Modeling Vehicles to Grid as a Source of Distributed Frequency Regulation in Isolated Grids with Significant RES Penetration"** *Energies* **2019,** *12***(4), 720; https://doi.org/10.3390/en12040720**

● 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)

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 Match 2021.

■ 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

▪ *Regular Reviewer in eight high quality international Journals with referees:*

- Journal of Intelligent and Robotic Systems.
- IEEE Transactions on Energy Conversion.
- Electric Power Systems Research

- International Journal of Distributed Sensor Networks
- Renewable Energy journal
- Reviewer on call basis IEEE Transactions on Automation Science and Engineering
- Neural Computing and Applications
- Applied Sciences

▪ Participation in National Committees: one

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

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 Evangelia
  ▪ Vardaxis Ioannis

o Ph.D. and M.Sc. Degrees (committee member)
  ▪ Mandourarakis Ioannis (Ph.D.)
  ▪ Tripolitakis Evangelos (Ph.D.)
  ▪ Fytraki Evangelia (M.Sc.)
  ▪ Xifaras Konstantinos (M.Sc.)
  ▪ Argyriou Ioannis (School of Environmental Engineering)
  ▪ Member of the Intermediate Examination Committee of ECE School -N.T.U.A. Athens (five members) for the PhD supervising of Mr. Georgios Psarros

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

  ▪ Member of the Intermediate 5 members Examination Committee and of the 7 members final Examination Committee of ECE School -N.T.U.A. Athens for the PhD supervising and examination of Mr. Nikolaos Koutsoukis (June 2019)

● **Undergraduate students supervised**

o **Diploma theses in progress (supervisor)**:
  ▪ Gioumatzidis Meletios
  ▪ Sgourou Maria
  ▪ Chalevidis Dimitrios

- ▪ Tsokas Vasilios
- ▪ Dais Georgios
- ▪ Bardoutsou Artemis
- ▪ Maragkos Praxitelis
- ▪ Nikoloudis Stavros
- ▪ Rousakis Skouloudis
- ▪ Kefalas Vasileios
- ▪ Zarkada Savvoula

- o **Diploma theses completed (supervisor):**
  - ▪ Fiorentzi Georgia
  - ▪ Liliopoulos Sotirios
  - ▪ Mavrogianni Amalia
  - ▪ Tsiamoudalis Konstantinos
  - ▪ Boglou Vasileios
  - ▪ Lekkas Christos
  - ▪ Melagoniti Konstantina
  - ▪ Vogiatzis Georgios
  - ▪ Venianaki Georgia
  - ▪ Polimenopoulou Alexandra
  - ▪ Dimitriou Georgios
  - ▪ Maragos Praxitelis
  - ▪ Nikoloudis Stavros

- o **Diploma theses in progress (committee member):**

  - ▪ Asimakis Giannopoulos
  - ▪ Aronis Spyridon
  - ▪ Bitzanakis Joseph
  - ▪ Dimitriadis Konstantinos
  - ▪ Gentsis Charalampos
  - ▪ Kosmopoulos Stefanos
  - ▪ Lagoudakis Marios
  - ▪ Parlanis Dimitrios
  - ▪ Petrakis Emmanuel
  - ▪ Sfakianakis Konstantinos
  - ▪ Spyridakis Georgios
  - ▪ Papargyriou Athanasios
  - ▪ Tepelidis Avraam
  - ▪ Tigas Argyrios
  - ▪ Glikis Theodoros
  - ▪ Dimitriou Georgios
  - ▪ Polymenopoulou Alexandra
  - ▪ Charalampous Charalampos

- o **Diploma theses completed (committee member):** various, e.g.,
  - ▪ Peristeropoulos Antonios
  - ▪ Polomarkaki Sofia
  - ▪ Papanikolaou Marios

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Nikolaos Bekiaris-Liberis
Rank: Assistant Professor
Years in rank: 1
Full-time or part-time: Full – Time
Division: Systems
Lab affiliation: Automation Laboratory

A – Teaching

- Undergraduate courses taught

  - SYS 401: Linear Systems (mandatory)
  - SYS 402: Control Theory With Applications (mandatory)

- Graduate courses taught

  - SYS 603: Nonlinear Systems

- Curriculum & course development

  - Lecture notes / homework / exam / lab exercises
    - SYS 401: Linear Systems: Lecture notes, homework, and exam development. Update of lab exercises.
    - SYS 402: Control Theory With Applications: Lecture notes, homework, and exam development. Update of lab exercises.
    - SYS 603: Nonlinear Systems: Lecture notes, homework, and exam development.

B – Publications

- Publications in refereed journals
  - Published:
    - N. Bekiaris-Liberis, C. Roncoli, and M. Papageorgiou, "Predictor-based adaptive cruise control design," *IEEE Transactions on Intelligent Transportation Systems,* vol. 19, pp. 3181--3195, 2018.

- N. Bekiaris-Liberis and M. Krstic, "Compensation of transport actuator dynamics with input-dependent moving controlled boundary," *IEEE Transactions on Automatic Control,* vol. 63, pp. 3889--3896, 2018.

- N. Bekiaris-Liberis and R. Vazquez, "Nonlinear bilateral output-feedback control for a class of viscous Hamilton-Jacobi PDEs," *Automatica,* vol. 101, pp. 223--231, 2019.

- X. Cai, N. Bekiaris-Liberis, and M. Krstic, "Input-to-state stability and inverse optimality of predictor feedback for multi-input linear systems," *Automatica,* vol. 103, pp. 549--557, 2019.

- o Submitted:
  - 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.* (Under review.)

  - I. Papamichail, N. Bekiaris-Liberis, A. I. Delis, D. Manolis, K.-S. Mountakis, I. K. Nikolos, C. Roncoli, & M. Papageorgiou, "Motorway traffic flow modelling, estimation and control with vehicle automation and communication systems," *Annual Reviews in Control.* (Under review.)

  - I. Karafyllis, N. Bekiaris-Liberis, and M. Papageorgiou, "Feedback control of nonlinear hyperbolic PDE systems inspired by traffic flow models," *IEEE Transactions on Automatic Control.* (Under review.)

- Publications in refereed conferences
  - o Published:
    - N. Bekiaris-Liberis and R. Vazquez, "Nonlinear bilateral full-state feedback trajectory tracking for a class of viscous Hamilton-Jacobi PDEs," *IEEE Conference on Decision and Control,* 2018.

    - F. Tajdari, C. Roncoli, N. Bekiaris-Liberis, and M. Papageorgiou, "Integrated ramp metering and lane-changing feedback control at motorway bottlenecks," *European Control Conference,* 2019.

    - N. Bekiaris-Liberis and A. Delis, "Feedback control of freeway traffic flow via time-gap manipulation of ACC-equipped vehicles: A PDE-based approach," *IFAC Workshop on Control of Transportation Systems,* 2019.

C – Awards & Distinctions

- Member of the research team, receiving the *2018 IEEE ITS Outstanding Application Award* from the IEEE Intelligent Transportation Systems Society (ITS) for *Contributions in Vehicle Automation and Communication Systems and Applications*.

D – Funded Projects

- Completed projects:

  - PADECOT—*Partial Differential Equation Model-Based Control of Traffic Flow,* European Commission, Horizon 2020 Marie Sklodowska-Curie Individual Fellowship Grant. Role: Marie Sklodowska-Curie Fellow. (Project ended August 28th 2019.)

- Submitted proposals:

  - *System for personalized management of electric vehicles charging/discharging.* Co-funded by the Greek Ministry of Economy and Development and the European Union. Role: Co-Investigator. (Proposal not funded.)

  - *Smart integrated management system for electric vehicles charging stations.* Co-funded by the Greek Ministry of Economy and Development and the European Union. Co-Investigator. (Proposal under review.)

E – Professional service

- Editorial duties

  - Associate Editor member of the Editorial Board of International Federation of Automatic Control (IFAC) journal *Automatica* (publisher: Elsevier).

  - Associate Editor member of the Editorial Board of the *IEEE Transactions on Intelligent Transportation Systems* (publisher: IEEE).

  - Associate Editor member of the Editorial Board of the *2019 IEEE Conference on Intelligent Transportation Systems* (publisher: IEEE).

  - Associate Editor member of the Editorial Board of the *2019 IFAC Workshop on Time Delay Systems* (publisher: Elsevier).

- o Associate Editor member of the Editorial Board of the *2019 IEEE International Conference on System Theory, Control and Computing* (publisher: IEEE)**.**

- ● 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.

- ● Workshop organization

  - o Main organizer of the workshop *Traffic Flow Control via PDE Techniques,* organized within the 2018 IEEE Conference on Decision and Control.

- ● Reviewing activities

  - o Performed 45 reviews of journal papers (including revisions) for:

    IEEE Transactions on Automatic Control
    IEEE Transactions on Intelligent Transportation Systems
    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 Robust and Nonlinear Control (publisher: Wiley)
    International Journal of Systems Science (publisher: Taylor and Francis)
    IEEE Control Systems Letters
    Nonlinear Analysis: Hybrid Systems (publisher: Elsevier)
    KYBERNETIKA
    The Canadian Journal of Chemical Engineering (publisher: Wiley)
    Transportation Research Part B (publisher: Elsevier)
    Transportation Research Part C (publisher: Elsevier)

F – Service to the School and the University

- ● School responsibilities

- o Co-organizer of two invited seminars by Iasson Karafyllis (National Technical University of Athens) and Emilia Fridman (Tel Aviv University).

- University responsibilities

  - o Member of the PhD dissertation examination committee of Kallirroi Porfyri, School of Production Engineering and Management.
  - o Member of equipment supply committee.
  - o Member of equipment delivery committee.

G – Advising

- Graduate students supervised

  - o M.Sc. thesis completed (as distant co-advisor)
    1. Farjam Tajdari (Aalto University, Finland)

- Undergraduate students supervised

  - o Diploma theses in progress (supervisor)
    1. Manolis Proestakis

  - o Diploma theses completed (supervisor)
    1. Argyris Tigkas
    2. Michalis Fanouriadis

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Aggelos Bletsas
Rank: Associate Professor (until Jan. 2019), Full Professor (Feb. 2019)
Years in rank: 5 in rank of Associate Prof., 0.5 in rank of Full Prof.
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)

  - TEL412 Analysis & Design (Synthesis) of Telecom Modules (elective, 13 theory lectures + 10 labs taught by instructor)

- Graduate courses taught
  - TEL602 Detection & Estimation Theory (25 lectures + 5 problem sets)

B – Publications

- Publications in refereed journals
  1. Published:
     - G. Vougioukas and **A. Bletsas**, "Switching Frequency Techniques for Universal Ambient Backscatter Networking", *IEEE Journal on Selected Areas in Communications (JSAC), Special Issue on Wireless Transmission of Information and Power*, Vol. 37, No. 2, pp. 464-477, Feb. 2019. Conference version received best student paper award, IEEE RFID-TA 2017. 🏆

     - P.N. Alevizos, X. Fu, N. Sidiropoulos, Y. Yang and **A. Bletsas**, "Limited Feedback Channel Estimation in Massive MIMO with Non-uniform Directional Dictionaries", *IEEE Transactions on Signal Processing (TSP)*, Vol. 66, No. 19, pp. 5127-5141, Oct. 2018.

- **A. Bletsas**, P.N. Alevizos and G. Vougioukas, "The Art of Signal Processing in Backscatter Radio for μWatt (or less) Internet-of-Things (IoT)", *IEEE Signal Processing Magazine (SPM), Special Issue on Internet-of-Things (IoT)*, Vol. 35, No. 5, pp. 28-40, September 2018.

- Publications in refereed conferences

  1. Published:
     - M. Ouroutzoglou and **A. Bletsas**, "Linear Complexity Noncoherent Miller Sequence Detection for Batteryless RFID/IoT", *53rd IEEE International Conference on Communications (ICC)*, May 2019, Shanghai, P.R. China.

     - P.N. Alevizos and **A. Bletsas**, "Inference-Based Resource Allocation for Multi-Cell Backscatter Sensor Networks", *53rd IEEE International Conference on Communications (ICC)*, May 2019, Shanghai, P.R. China.

     - G. Vougioukas and **A. Bletsas**, "Ambient Backscatter in Reality: Does Illuminator Signal Structure Matter?", *53rd IEEE International Conference on Communications (ICC)*, May 2019, Shanghai, P.R. China.

     - S. Megalou, A. Tzitzis, S. Siachalou, T. Yioultsis, J.N. Sahalos, E. Tsardoulias, A. Filotheou, A. Symeonidis, L. Petrou, **A. Bletsas** and A.G. Dimitriou, "Fingerprinting Localization of RFID Tags with Real-Time Performance-Assessment, Using a Moving Robot", *13th European Conference on Antennas and Propagation (EUCAP),* March/April 2019, Krakow, Poland.

     - A.G. Dimitriou, S. Siachalou, **A. Bletsas** and J. N. Sahalos, "Introduction of Dynamic Virtual Force Vector in Particle Swarm Optimization for Automated Deployment of RFID Networks", *13th European Conference on Antennas and Propagation (EUCAP),* March/April 2019, Krakow, Poland.

- Patents

  o Granted
     - G. Vougioukas and **A. Bletsas**, "Ultra-low Power and Cost Purely Analog Backscatter Sensors with Extended Range Smartphone/Consumer Electronics FM Reception", *U.S. Patent & Trademark Office (USPTO),* Patent 10395162, Aug. 27, 2019.
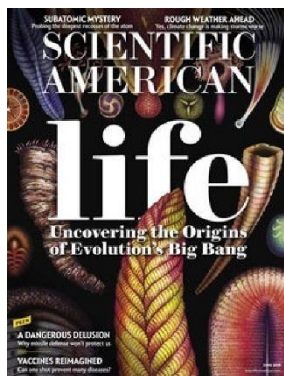
C – Awards & Distinctions

- o **Aug. 2019: front page in public press newspaper on Group's Research: ``Internet of Plants grassroots in Crete"**

- o **June 2019: Groups' research at international, high-circulation public press magazine Scientific American: "Internet of Plants: Scientists turn lemons into tiny ``radio stations" that signal when a tree needs watering".**

- o **Sept. 2018:** inclusion in the 45 most influential Greek Researchers under the age of 45, compiled by Stanford's Prof. J. Ioannidis (in the context of research on brain drain. Featured in front page of the highest circulation newspaper in Greece**. Only 5 out of 45 work in Greek Institutions!** *Disclaimer: citation data are useful but they cannot (and should not) replace evaluation based on actually reading the content of the papers!*

D – Funded Projects

- Current projects:
  - "Ambient Backscatter Sensor Networks under Nonlinear Energy Harvesting", funded through National Strategic Reference Framework (NSRF) - Praxi 34.
    Role: Project Coordinator.

  - "Intelligent Repeaters and Robots for Fast, Reliable, Low-Cost RFID Inventorying & Localization (RELIEF)", 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.

  - "Ambiently-Powered Network Computers: Batteryless Internet-of-Things-That-Think (AMPERE)", funded through Hellenic Foundation of Research & Innovation (HFRI), *First Call for H.F.R.I. Research Projects to support Faculty members and Researchers and the Procurement of High-cost research equipment" (Project #: 2846).*
    Role: Project Coordinator.

E – Professional service

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

- Conference Technical Program Committee (TPC) service
  - IEEE 5G World Forum 2019.
  - IEEE International Conference on Communications (ICC) 2019 (Ad-hoc & Sensor Networks Track).
  - IEEE International Conference on Communications (ICC) 2019 (Mobile Wireless Networks Track).
  - IEEE International Conference on Communications (ICC) 2019 (Cognitive Radio & Networks Track).

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

F – Service to the School and the University

- School/University responsibilities
  - Member of TUC Research Committee Objections Evaluation Committee.

- o Substitute Member of the School of ECE Graduate Studies Committee.
- o Member of the TUC Library Committee.
- o Member of various TUC procurement committees.

G – Advising

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

  - o Completed Diploma theses supervisor for
    1. Konstantinos Skyvalakis
    2. Evangelos Karatarakis
    3. Athanasios Topalis
    4. Michail Ouroutzoglou

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

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

Technical University of Crete
School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: George Karystinos
Rank: Professor
Years in rank: 1
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)

- Graduate courses taught
    - TEL 614: Coding Theory

B – Publications

- Publications in refereed journals

    - Submitted: 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*, submitted June 2019.

    - Accepted: those published (see below)

    - Published:
        - P. P. Markopoulos, N. Tsagkarakis, D. A. Pados, and **G. N. Karystinos**, "Realified L1-PCA for direction-of-arrival estimation: Theory and algorithms," *EURASIP Journal on Advances in Signal Processing*, vol. 2019, pp. 1-16, June 2019.

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.

E – Professional service

- 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 - present.

F – Service to the School and the University

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

G – Advising

- Active graduate students supervised

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

  - o Ph.D. and M.Sc. Degrees in progress (committee member)
    - Giannelos Evangelos (Ph.D.)
    - Vougioukas Georgios (Ph.D.)
    - Karakasis Paris (M.Sc.)
    - Logothetis Fragkoulis (M.Sc.)
    - Siaminou Ioanna (M.Sc.)
    - Skyvalakis Konstantinos (M.Sc.)

- Undergraduate students supervised

  - o Diploma theses in progress
    - Dafoulis Nikolaos
    - Nasoulis Nikolaos
    - Theofilou Eleni
    - Vasilopoulos Alkiviadis

  - o Diploma theses completed (supervisor)

- Delis Georgios
- Grypiotis Ioannis
- Papaioannou Dimitrios
- Sgourakis Andreas
- Tazes Athanasios
- Zafiriou Odysseas

- Diploma theses in progress (committee member)
  - Boras Charalampos
  - Iliadis Stylianos
  - Kolomvakis Christos
  - Papagiannakos Ioannis-Marios
  - Paschalidou Christina
  - Tsekos Nikolaos

- Diploma theses completed (committee member)
  - Giariskanis Fotios
  - Logothetis Fragkoulis
  - Ouroutzoglou Michail
  - Pouros Spyridon
  - Siaminou Ioanna
  - Skyvalakis Konstantinos
  - Topalis Athanasios

Technical University of Crete
School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Liavas Athanasios
Rank: Professor
Years in rank: Nine (9)
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught

    - TEL 301 Telecommunications Systems I (mandatory)
    - TEL 417 Wireless Communications
    - TEL 413 Convex Optimization (X-listed)

- Graduate courses taught

    - TEL 413 Convex Optimization (X-listed)

- Curriculum & course development

    - New exercises Convex Optimization
    - Lecture notes on Convex Optimization (updated)

B – Publications

- Publications in refereed journals

    o Published:

        ▪ A. Balatsoukas-Stimming and A. P. Liavas, "Design of LDPC Codes for the Unequal Power Two-User Gaussian Multiple Access Channel," *IEEE Wireless Communications Letters,* vol. 7, no. 5, pp. 868-871, October 2018.

D – Funded Projects

- Current projects:

o PARTENSOR: Parallel algorithms for very large tensor processing, (T1EΔK-3360), Project Coordinator (2018-2021)

E – Professional service

- Reviewing activities

  o IEEE Transactions on Signal Processing, ICASSP 2019.

F – Service to the School and the University

- School – level responsibilities

  o Dean School ECE, TUC

- 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. theses in progress (supervisor)

    - Aleksandros Georgogiannis (PhD Student)
    - Paris Karakasis (MSc Student)

- Undergraduate students supervised

  o Diploma theses in progress

    - Ioanna Siaminou
    - Ioannis-Marios Papagiannakos
    - Christos Kolomvakis

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Michael Paterakis
Rank: Professor
Years in rank: 20
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information and Computer Networks Laboratory

A – Teaching

- Undergraduate courses taught

    o TEL 202: Probability and Random Signals (Mandatory)
    o TEL 401: Computer Networks I (Mandatory)

- Graduate courses taught

    o TEL 601: Probability Theory and Stochastic Processes

D – Funded Projects

- Current projects:

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

E – Professional Service

- *June 2016 – June 2019.* Member of the Board of Directors, Greek Universities Network (GUnet), a no-profit company founded by all the Greek Academic Institutions.

F – Service to the School and the University

- School responsibilities

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

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

  o 2019 – 2022, Director, Information and Computer Networks Laboratory, ECE School, Technical University of Crete.

- University responsibilities

  o June 2013 – June 2021, Director and Chairman of the Board, Telecommunication Systems Research Institute (T.S.I.), Technical University of Crete.

  o 2013 - , Member of the Quality Assurance Unit for Higher Education, Technical University of Crete.

  o 2017 - , Deputy Member of the University Senate.

G – Advising

- Active graduate students supervised

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

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

    - Skyvalakis Konstantinos

- Undergraduate students supervised

  o Diploma theses completed (supervisor)
    - Motos Michael

  o Diploma theses completed (committee member)

- Skyvalakis Konstantinos
- Diploma theses in progress (committee member)
  - Sioutas Apostolos

Technical University of Crete

School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Michalis Zervakis
Rank: Professor
Years in rank: 19
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 312: Digital Image Processing

- Graduate courses taught
    - TEL 312: Digital Image Processing (cross-listed)

B – Publications

- Publications in refereed journals

    - Published:

Paravolidakis, V., Ragia, L., Moirogiorgou, K., Zervakis, M.E., "Automatic coastline extraction using edge detection and optimization procedures", Geosciences 8(11), p. 407, Nov. 2018

Pezoulas, V.C., Michalopoulos, K., Klados, M., Micheloyannis S., Bourbakis N., Zervakis M., "Functional connectivity analysis of cerebellum using spatially constrained spectral clustering", IEEE Journal of Biomedical and Health Informatics, 23 (4), 1710-1719, Sept 2018 DOI:10.1109/JBHI.2018.2868918

Papadogiorgaki, M., Koliou, P., Zervakis, M.E., "Glioma growth modeling based on the effect of vital nutrients and metabolic products", Medical and Biological Engineering and Computing, 56(9), pp. 1683-1697, Sept. 2018

Tsiouris, K.M., Pezoulas, V.C., Zervakis, M., Konitsiotis M., Koutsouris, D.D., Fotiadis, D.I., "A Long Short-Term Memory deep learning network for the prediction of epileptic seizures using EEG signals", Computers in Biology and Medicine, 99, pp. 24-37, Aug. 2018

Vourlaki I., Balas C., Livanos G., Vardoulakis M., Giakos G., Zervakis M., "Bootstrap clustering approaches for organization of data: Application in improving grade separability in cervical neoplasia, Biomedical Signal Processing and Control, 49, pp. 263-273, March 2019

- Publications in refereed conferences

  - Published:

George Livanos, Michalis Zervakis, Vaggelis Chalkiadakis, Konstantia Moirogiorgou, George Giakos, Nikos Papandroulakis, "Intelligent Navigation and Control of a Prototype Autonomous Underwater Vehicle for Automated Inspection of Aquaculture net pen cages", 2018 IEEE International Conference on Imaging Systems and Techniques (IST), Krakow, Poland, Oct 2018

F Markolefas, K Moirogiorgou, G Giakos, M Zervakis , "Virtual Video Synthesis for Personalized Training", 2018 IEEE International Conference on Imaging Systems and Techniques (IST), Krakow, Poland, Oct 2018

 E. Sergaki, G. Spiliotis, I. Vardiambasis, T. Kapetanakis, A. Krasoudakis, G. Giakos, M. Zervakis, A. Polydorou, "Application of ANN and ANFIS for detection of brain tumors in MRIs by using DWT and GLCM texture analysis", 2018 IEEE International Conference on Imaging Systems and Techniques (IST), Krakow, Poland, Oct 2018

A. Beninati, N. Douard, G. Bauman, J. Hoogerhyde, A. Passalaris, Z. Giakos, M. Nowak, S. Shrestha, H. Mohamed, M. Zervakis, G. Livanos, G. Giakos, "Space Target Motion Salient Classification using Polarimetric Retina Vision Sensing Principles", 2018 IEEE International Conference on Imaging Systems and Techniques (IST), Krakow, Poland, Oct 2018

A. Zormpas, K. Moirogiorgou, K. Kalaitzakis, G. Plokamakis, P. Partsinevelos, G. Giakos, M. Zervakis, "Power Transmission Lines Inspection using Properly

Equipped Unmanned Aerial Vehicle (UAV)", 2018 IEEE International Conference on Imaging Systems and Techniques (IST), Krakow, Poland, 2018

D – Funded Projects

- Current projects:
    - *Automatic detection and localization of High frequency Oscillation in Paediatric Epilepsy (HOPE); Leader of ECE team for TUC, Funding Agency: H2020- Marie Skłodowska-Curie Actions Research and Innovation Staff Exchange (RISE)*
    - *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 - x (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)»*

- Project proposals submitted:
    - *'Analysis, Evaluation and Documentation of life-changing Effects in Coastal Cities due to progressive Environmental changes – DECIdE' (Project Index No.: 2018-1-0586) @ EEA and Norway Grants Fund for Regional Cooperation, CALL FOR PROPOSALS - CONCEPT NOTE, Common Challenges – Shared Solutions Call no. . 2018-1, Publication date: 24/01/2018*
    - *'Σύστημα Υποστήριξης Ποιότητας Ζωής για Άτομα με Νοητική Αναπηρία – QuaLiSID' @ Τ2ΕΔΚ*
    - *'Καινοτόμο Ετερογενές Παράλληλο Σύστημα Παρακολούθησης Αυτοκινητοδρόμων – ΚΑΙΣΑΡΑΣ (KAISARAS)' @ Τ2ΕΔΚ*
    - *'Ολοκληρωμένο Σύστημα ευφυούς παρακολούθησης για την υποστήριξη της Φυτοπροστασίας ακριβείας στην Αμπελοκαλλιέργεια Ο.Σ.Φ.Α. (S.D.M.V.)' @ Τ2ΕΔΚ*
    - *'Συνεργασία για την προστασία, αξιολόγηση και ανάδειξη σπάνιων γηγενών ποικιλιών αμπέλου της Βορείου Ελλάδας - VineProVal' @ Τ2ΕΔΚ*
    - *'Πρωτότυπο Σύστημα Μετρήσεων Επιφάνειας Οδοστρώματος (ΠΡΩΤΕΑΣ)' @ Τ2ΕΔΚ*
    - *'Αυτοματοποιημένη εποπτεία εναέριας λήψης του Ελληνικού Δικτύου γραμμών μεταφοράς ρεύματος - AdVISEr' @ Τ2ΕΔΚ*

- *Ξενοκράτης - Ενοποιημένο Σύστημα Πρόληψης και Διαχείρισης Έκτακτων Συμβάντων σε Κρίσιμες Υποδομές' @ Τ2ΕΔΚ*
- *Σύστημα παρακολούθησης συλλογής απορριμμάτων σε νησιωτικές κοινότητες @ Interreg Ελλάδα-Κύπρος*
- *Ηλεκτρονική Πλατφόρμα Διαχείρισης Κρίσεων @ Interreg Ελλάδα-Κύπρος*
- *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"*
- *SU-DRS02-2018 SU-DRS02-2018 "24-CRISIS"*

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 Chair, Steering Committee member, International Technical Committee member, 2018 IEEE Intl Conference on Imaging Systems and Techniques, Oct. 16-18 Krakow, Poland, http://ist2018.ieee-ims.org/
  - Guest Editor, Journal Multimedia Tools and Applications, Special Issue on "Multimedia Systems for Critical Engineering Applications", 2018 http://static.springer.com/sgw/documents/1597858/application/pdf/Full+Call+Special+Issue+of+MTAP.pdf

- 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

- Active graduate students supervised

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

  - Ph.D. and M.Sc. theses in progress (supervisor)
    - Liaba Irini (Ph.D.)
    - Livanos Georgios (Ph.D.)
    - Mirogiorgou Constantia (Ph.D.)
    - Paterkaki Eleni (M.Sc.)
    - Tsakaneli Stavroula (M.Sc.)

  - Ph.D. και M.Sc. completed (committee member)
    - Giakoumakis P.
    - Karakasis P.

  - Ph.D. και M.Sc. in progress (committee member)
    - Various students

- Undergraduate students supervised

  - completed (supervisor)
    - Klados G.
    - Patrikas A.
    - Torakis I.
    - Chasapas K.
    - Fanouriadis M.
    - Sfiris N.
    - Vardaxis I.
    - Brelas I.
    - Politof K.
    - Kontzedakis D.
    - Chatziparaschis D.
    - Ntoko A.
    - Lemonis I.

  - In progress (supervisor)
    - Tsichlis I.

- - - Paschalidou C.
    - Tsekos N.
    - Zormpas A.

  - Completed (committee member)
    - Various students

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Dimitris Angelakis
Rank: Associate Professor
Years in rank: 3
Full-time or part-time: Full-time, spring semester (fall semester on leave, Centre at Quantum Technologies, National University of Singapore)

A – Teaching

- Undergraduate courses taught
    - FYS 102: Physics (Electromagnetism) (mandatory)
    - FYS 411: Quantum Technology
    - Physics II, School of Mineral Resources Engineering

- Graduate courses taught
    - FYS 602: Quantum Technology (FYS 602 – x-listed with FYS 411)

- Curriculum & course development
    1. Lecture notes / slides developed
        - Updated "An introduction to quantum computing for FYS 411 and FYS 602"
        - Updated "Lectures slides for Physics 102"

B – Publications

- Publications in refereed journals

    1. Accepted:
        - D'Amico, **D. G. Angelakis**, et al., "Nanoscale Quantum Optics", Riv. Nuovo Cimento

        - J. Tangpatinanon, S. Clark, V. M. Bastidas, R. Fazio, D. Jaksch, **D. G. Angelakis**, "Hidden Order in Quantum Many-body Dynamics of Driven-Dissipative Nonlinear Photonic Lattices", Phys. Rev. A

    2. Published:
        - Wing Chi Yu, Jirawat Tangpanitanon, Alexander W. Glaetzle, Dieter Jaksch, **Dimitris G. Angelakis,** "Discrete time crystal in globally driven interacting quantum systems without disorder", Phys. Rev. A. 99, 033618 (2019)

- Tian Feng, See, V. M., Bastidas, Jirawat, Tangpanitanon, **Dimitris G., Angelakis**, "Strongly correlated photon transport in nonlinear photonic lattice with disorder: Probing signatures of the localization transition", Phys. Rev. A. 99, 033835 (2019)

- Wing Chi Yu, P. D. Sacramento, Y. Chao, **D. G. Angelakis**, and Hai-Qing Lin, "Detection of topological phases by quasilocal operators" Phys. Rev. B 99, 115113 (2019)

- V. M. Bastidas, T.H. Kyaw, J. Tangpanitanon, G. Romero, L.C. Kwek, **D.G. Angelakis**, "Floquet stroboscopic divisibility: coherence preservation in non-Markovian dynamics" New Journal of Physics, New J. Phys. 20 093004 (2018)

- Books and edited book chapters

  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)*

C – Awards & Distinctions

- Invited Research Professor Centre at Quantum Technologies, National University of Singapore September 2018 to January 2019

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
    o Member of the editorial board of European Physical Journal: Quantum Technology, Springer, since 2014
    o Member of the editorial board of Advanced Quantum Technology, Wiley, since 2018

- Society Technical Committee duties
    o 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

- o Program committee member, 20th International Conference on Physics of Light-Matter Coupling in Nanostructures (PLMCN 2019), Moscow, July 2-6 2019

- o Program committee, AQIS18, 18th Asian Quantum Information Science Conference, http://aqis-conf.org/2018/, Nagoya Japan, September 8-12, 2018

- Reviewing activities
  - o 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 and Keynote talks in international conferences and advanced schools

1. "Analog quantum supremacy for phases of matter and machine learning", IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC), Cannes, July 2019.

2. "Many-body physics with strongly confined optical fields", 20th International Conference on Physics of Light-Matter Coupling in Nanostructures (PLMCN 2019), Moscow, July 2019.

3. "Quantum simulators with near scale devices", 8th International Conference on Quantum Information, Tehran, Iran September 2018 (**Keynote)**

F – Service to the School and the University

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

G – Advising

- Active graduate students supervised

  - o Ph.D. and M.Sc. theses in progress (supervisor)
    - ▪ Kalogerakis Michalis (Ph.D.)
    - ▪ Shetakis Nikolaos (Ph.D.)

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

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

- Undergraduate students supervised

  - Diploma theses in progress
    - Skordias Themistoklis, ECE TUC, "Quantum machine learning and applications"
    - Politis Alexandros, ECE, TUC, "Variational hybrid quantum-classical algorithms and photonic implementations"

  - Diploma theses completed (committee member)
    - Devetzakis Georgios
    - Vardakis Konstantinos

Technical University of Crete
School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Demosthenes Ellinas
Rank: Professor
Years in rank:
Full-time or part-time: Full-time

A – Teaching

- Undergraduate courses taught
  - MATH 311 Quantum Information: An introduction
  - MATH 102 Linear Algebra (mandatory)
  - MATH 111 Discrete Mathematics
- Graduate courses taught
  - MATH 601 Quantum Information: An introduction

B – Publications

- Publications in refereed journals
  - Published:
    - D Ellinas, *Operational Algorithms for Separable Qubit X States* Condensed Matter 4 (3), 64 (2019)
    - D Ellinas, AJ Bracken, *Phase space regions operators and ISp (2) maps*, Journal of Physics: Conference Series 1194 (1), 012033 (2019)
    - D Ellinas, PD Jarvis, *Quantum channel simulation of phylogenetic branching*, Journal of Physics A: Mathematical and Theoretical 52 (11), 115601, (2019)

E – Professional service

- Associate Editor duties

  - Quantum Reports (editorial board)
  - Journal of King Saud University - Science (associate editor) (Elsevier)
  - Sci (editorial board)

- Reviewing activities

  - Journal of Physics A: Mathematical and Theoretical Physics
  - Entropy

F – Service to the School and the University

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

G – Advising

- Diploma thesis advisor (June 2019)
  - Konstantinos Vardakis, "*Iterative Compression Algorithm of Quantum Entanglement*".

Technical University of Crete
School of Electrical & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Daphne Manoussaki
Rank: Assistant Professor
Years in rank: 13
Full-time or part-time: Full

A – Teaching

During this academic year I was on sabbatical.

I only taught a series of lectures/ seminars (4 hours per week for 8 weeks) on Mathematical Biology (University of Athens Medical School).

D – Funded Projects

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

F – Service to the School and the University

On sabbatical during 2018-19

G – Advising
- Undergraduate students supervised

  - Diploma theses completed (supervisor)
    - Golfidis Antonios-Andreas

  - Diploma theses completed (committee member)
    - Grypiotis Ioannis

Technical University of Crete
School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Minos Petrakis
Rank: Associate Professor
Years in rank: 3,5
Full-time or part-time: Full-time

A – Teaching

- Undergraduate courses taught
  - MATH 102 : Mathematics II (mandatory)
  - MATH 107 : Probability Theory – Statistics (mandatory)

- Graduate courses taught
  - Σειρες Fourier και Μιγαδικη Ανάλυση
  - Εφαρμοσμένη Συναρτησιακή Ανάλυση

E – Professional service

- Reviewing activities
  Reviews for zentralblatt-math

F – Service to the School and the University

- School – level responsibilities

- University responsibilities

G – Advising

- Undergraduate students supervised

  - Diploma theses in progress: 2

Technical University of Crete
School of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2018 to Aug. 31, 2019

Name: Stavros Christodoulakis
Rank: Emeritus Professor

B – Publications

- Publications in refereed conferences

    o Accepted:
    ▪ Moumoutzis, N., Sifakis, Y., Christoulakis, M., Christodoulakis, S., & Paneva-Marinova, D. A Reference Framework to Establish and Sustain Onlife Communities and Its Use Rich Learning Experiences in History with ViSTPro. Digital Presentation and Preservation of Cultural and Scientific Heritage. Conference Proceedings. Vol. 9, Sofia, Bulgaria: Institute of Mathematics and Informatics – BAS, 2019. To appear.

    ▪ Moumoutzis, N., Koukis, A., Christoulakis, M., Maragkoudakis, I., Christodoulakis, S., Paneva-Marinova, D. PerFECt: A Performative Framework to Establish and Sustain Onlife Communities and its Use to Design a Mobile App to Extend a Digital Storytelling Platform with New Capabilities, 2019 International Conference on Interactive Mobile Communication Technologies and Learning (IMCL), 31 October - 1 November 2019, Thessaloniki, Greece. To appear.

    o Published:
    ▪ Moumoutzis, N., Christoulakis, M., Christodoulakis, S., & Paneva-Marinova, D. Renovating the Cultural Heritage of Traditional Shadow Theatre with eShadow. Digital Presentation and Preservation of Cultural and Scientific Heritage. Conference Proceedings. Vol. 8, Sofia, Bulgaria: Institute of Mathematics and Informatics – BAS, 2018. ISSN: 1314-4006, eISSN: 2535-0366

D – Funded Projects
[joint work with School of ECE Scientific Personnel
G. Anestis, P. Arapi, N. Gioldasis, I. Maragoudakis, N. Moumoutzis, N. Pappas]

- Current projects:
    - **[CARAVAN NEXT]** "Feed the Future: Art moving cities"
      Budget: € 300.020
      Duration: 1/9/2015 - 28/2/2019
      Project Type: Creative Europe Culture / Cooperation
      Projects

    - **[DISCOVER]** " Developing Innovative Science Outreach for
      Vocational Education to Encourage STEM Careers and Education"
      Budget: € 37.597
      Duration: 1/10/2017 - 30/9/2019
      Project Type: ERASMUS+

    - **[G4M]** «Ανάπτυξη Πλατφόρμας Δημιουργίας και Αναπαραγωγής
      Ψηφιακών Παιχνιδιών για την Προώθηση Προϊόντων και
      Υπηρεσιών»
      Budget: € 198.786,27 €
      Duration: 15/3/2019 - 14/3/2022
      Project Type: ΕΣΠΑ

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

    - **[MechMate]** "Strategic Partnership in the field of Mechatronics for
      innovative and smart growth of European manufacturing SMEs"
      Budget: € 62.683
      Duration: 1/11/2016 - 31/12/2018
      Project Type: ERASMUS+

- Erasmus+/Key Action 2 – Strategic Partnerships
  "Technology for Industry for teachers and trainers for vocational education"
  Coordinator: Technical University of Kosice - TUKE, Slovakia
  Accepted, starting date: end of October 2019