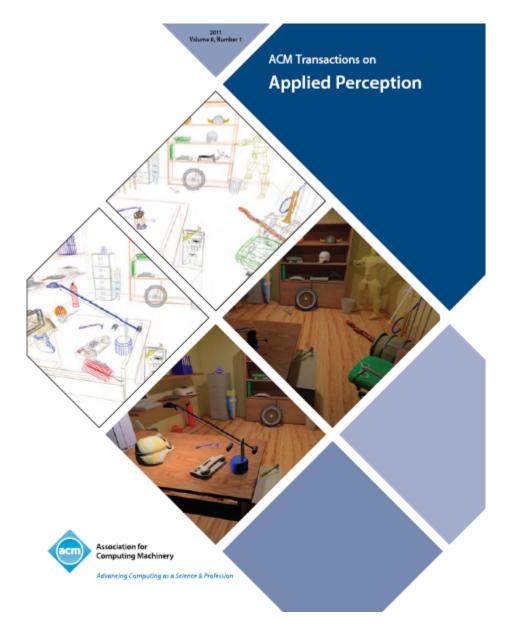# Annual Activity Report

From Sep. 1, 2010 to Aug. 31, 2011
Chania, Crete
2012

Cover of *ACM Transactions on Applied Perception*, vol. 8, no. 1, 2011, based on work by ECE Dept. Assist. Prof. K. Mania and her colleagues on "*Quantifying Fidelity for Virtual Environment Simulations Employing Memory Schema Assumptions*".

Message from the Chair

Dear Colleague,

The Department of Electronic and Computer Engineering (ECE) at the Technical University of Crete (TUC) was founded in the late '80's, and admitted its first class of (30) undergraduate students in 1990. Since then, the Department has grown considerably, by all counts. As of this writing, the incoming class of freshmen has grown to 125, and the number of faculty to 25 (with several more to join us soon).

The Department is organized in four Divisions: Computer Engineering, Telecommunications, Electronics & Computer Architecture, and Control Systems. There is a successful research-oriented graduate studies program in place since the early 90's, which has grown considerably over the years. The Department is proud of the accomplishments of its graduates. Many of our former students have pursued graduate studies here and abroad. Their ranks include faculty members at top-rated North-American Universities (Georgia Tech, McMaster University), researchers at University, Government, and Industry Research Labs (e.g., Rice-U.S., NICTA-Australia, Telcordia-U.S., Ericsson - Sweden), and successful professional engineers across Greece, Europe and the rest of the world.

Over half of the faculty members have obtained their Doctoral degrees in top-rated foreign Universities, and several worked for many years as faculty members abroad prior to joining us. The current levels of peer-reviewed scientific publication activity and competitive research funding are testament to the talent, visibility, and productivity of the faculty. Faculty credits further include multiple best paper awards at the IEEE Society level, professional recognition in terms of Distinguished Lecturer, Associate Editor and Technical Committee member appointments, and leadership in conference organization. This past year, in particular, another important recognition came from the *extremely positive* External Evaluation of the Department from a committee of internationally-renowned experts (briefly summarized on pg. 6).

While the Department's performance is good in a number of important academic metrics, there is much room for improvement. A very useful tool towards this end is the Annual Activity Report (AAR), a process instituted in our department in 2005. This is the Department's seventh AAR, covering the period from Sep. 1, 2010 to Aug. 31, 2011. It is our hope that the AARs document the results of our research efforts, and help improve the quality of our Department. Your feedback is most welcome.

Minos N. Garofalakis
minos@softnet.tuc.gr

Sep. 2010 – August 2011 Awards and Honors

(Kindly see http://www.ece.tuc.gr/ for full list and recent updates)

Paper Distinctions

Katerina Mania, N. Medford, G. Christodoulou, P. Watten, E. Radulescu, H. Critchley, "An Interactive Lighting System for fMRI Rendering Fidelity Experiments", *selected as one of best papers of IEEE VSGames 2011.*

Honorary Awards

Nikos Sidiropoulos, awarded *IEEE Signal Processing Society Meritorious Service Award (2010)*, "*for dedicated service and leadership in the field of signal processing for communications and networking*" (presented at the IEEE ICASSP Conference, Prague, May 2011).

Keynote Addresses

Michalis Lagoudakis, Invited Speaker, "*RoboCup: A Challenge Problem for Artificial Intelligence*", Centro Politecnico Superior, University of Zaragoza, Spain, November 2010.

Michalis Lagoudakis, Invited Speaker, "*RoboCup: A Challenge Problem for Artificial Intelligence*", Department of Computer Science, University of Ioannina, Greece, March 2011.

Yiannis Papaefstathiou, Invited Speaker, Second International Workshop on Sensing Technologies in Agriculture, Forestry and Environment (ECOSENSE), April 2011, Belgrade, Serbia.

Other Distinctions

Michalis Lagoudakis, 2nd place award, Standard Platform League Open Challenge, Robot Soccer World Cup – RoboCup 2011, Istanbul Turkey, July 2011.

Apostolos Dollas, 3rd place in the 2010 International Conference on Field Programmable Technology Design Competition: M. Smerdis, P. Malakonakis, A. Dollas, Carlothello: An FPGA Based Monte Carlo Othello Player, (FPT '10), Beijing, China, December, 2010.

Aggelos Bletsas invited and accepted position as Associate Editor in the Editorial Board of newly founded IEEE Wireless Communication Letters (WCL) journal, Aug. 2011.

Stratos Idreos (TUC ECE graduate) won the *2011 ACM SIGMOD Jim Gray Doctoral Dissertation Award.*

A. Key Statistics for 2010-2011
(in parenthesis 2009-2010)

* Publications (journals+confs+patents+book chaps, **published**): **121** (~117)

* Journals published: **36** (48)

* Conference papers published: **75** (69)

* Patents granted: **5** (7)

* % Faculty with research support: **> 85** (> 80)

* # MSc degrees awarded this year: **13** (22)

* # PhD degrees awarded this year: **5** (2)

Comparison with previous AARs:

* Publication rate, 4.7 pub/faculty/year, slightly smaller than departmental 4-year average (~5 pub/faculty/year), 25% decrase in journals, 9% increase in conference publications.
* #MSc degrees awarded slightly decreased, #PhD degrees doubled, compared to departmental 4-year average.

Mid-term Goals:

* More emphasis on **first-rate** peer-reviewed publications.
* Increase efforts to attract competitive (European, National) funding.
* Insist on a relatively small number of high-quality MS/PhDs students. It seems realistic to maintain target of 3-5 PhDs/year.
* Priority on high-quality faculty mentoring, promotion, retention.

B. External ECE Department Evaluation

The Committee responsible for the External Evaluation of the Department of Electronic and Computer Engineering (ECE) of the Technical University of Crete (TUC) consisted of the following five (5) expert evaluators, drawn from the Registry constituted by the Hellenic Quality Assurance Agency for Higher Education (HQAA) in accordance with Law 3374/2005:

1. Professor **Petros Ioannou** (Chair)
University of Southern California, USA

2. Professor **Nikos Karcanias**
City University London, UK

3. Professor **Christos Christopoulos**
Nottingham University, UK

4. Professor **George Yadigaroglou**
ETHZ, CH

5. Professor **Anthony Ephremides**
University of Maryland, USA

The External Evaluation Committee (EEC) visited the department between May 30 and June 1 2011. The outcome of the evaluation was **enthusiastically positive** with certain suggestions for improvement. An excerpt of the EEC report is given below:

F. Final Conclusions and recommendations of the EEC

The Department is staffed by highly enthusiastic, mostly young, top quality, internationally known faculty who came from renowned Universities. The EEC was impressed by the high standards of the Department in its current core areas and the quality of teaching and research. The comments that follow aim at helping the further development of the Department.

The full EEC report is posted at the departmental web site and can be also found here:
`http://www.ece.tuc.gr/data/TUC_ECE_ExternalEvaluationReport_June2011.pdf`

C. First ECE Department Open House, June 2011

The first Open House of the ECE Department was held on June 2011, aiming to better acquaint the Department to the local community. The Open House consisted of talks, lab tours and lab demonstrations. The whole Department was warmly engaged and the event was a great success with many visitors (mainly high-school students and families).

Ειδήσεις

ΠΟΛΥΤΕΧΝΕΙΟ ΚΡΗΤΗΣ

Διεθνής αναγνώριση για το Τμήμα ΗΜΜΥ

Στην κορυφή σε πανελλαδικό επίπεδο, αλλά και με διεθνή αναγνώριση, είναι το Τμήμα Ηλεκτρονικών Μηχανικών και Μηχανικών Υπολογιστών (ΗΜΜΥ) του Πολυτεχνείου Κρήτης.

Αυτό, μεταξύ άλλων, επισημάνθηκε σε υποψήφιους φοιτητές, γονείς και εκπαιδευτικούς στη χθεσινή ημερίδα ανοικτών θυρών που διοργάνωσε το Τμήμα.

Οι δραστηριότητες της Σχολής, τα Τμήματα και τα εργαστήριά της παρουσιάσθηκαν επιγραμματικά στο αμφιθέατρο του κτηρίου Επιστημών - ΗΜΜΥ, από τον καθηγητή κ. Άγγελο Μπλέτσα, ενώ στη συνέχεια για όλους τους ενδιαφερόμενους έγιναν επιδείξεις στα εργαστήρια του Τμήματος.

Στην ομιλία του ο κ. Μπλέτσας αναφέρθηκε σε αριστούχους μαθητές που μπορούσαν να βρεθούν σε οποιοδήποτε εκπαιδευτικό Ίδρυμα της χώρας και επέλεξαν το

Τμήμα ΗΜΜΥ του Πολυτεχνείου Κρήτης και στη συνέχεια έγιναν δεκτοί με υποτροφία από ευρωπαϊκά, αμερικανικά και καναδικά Πανεπιστήμια (περίπτωση Μεγασθένη Αστέρη), αλλά τις δυνατότητες επαγγελματικής αποκατάστασης σε μια δύσκολο περίοδο που δίνει το Τμήμα. Στη συνέχεια έγιναν ερωτήσεις από υποψήφιους του Τμήματος και επιδείξεις στα εργαστήρια ηλεκτρικών κυκλωμάτων και ΑΠΕ, πληροφορίας και δικτύων, τεχνολογίας συστημάτων λογισμικού και δικτυακών εφαρμογών, στο εργαστήριο τηλεπικοινωνιών, προγραμματι-

σμού και τεχνολογίας ευφυών συστημάτων, μικροεπεξεργαστών και υλικού.

Ενημέρωση για το Τμήμα Ηλεκτρονικών Μηχανικών και Μηχανικών Υπολογιστών χθες στο Πολυτεχνείο Κρήτης.

ΑΠΟ ΤΟ ΠΟΛΥΤΕΧΝΕΙΟ ΚΡΗΤΗΣ

Παρουσίαση σπουδών

Με την ευκαιρία της συμπλήρωσης των Μηχανογραφικών Δελτίων το Πολυτεχνείο Κρήτης διοργανώνει κεντρική ενημερωτική εκδήλωση για τους υποψήφιους φοιτητές και τις οικογένειές τους σήμερα και ώρα 11.30 π.μ. - 2 μ.μ., στην αίθουσα εκδηλώσεων της Συνεταιριστικής Τράπεζας Χανίων (Ελ. Βενιζέλου 28 - 32).

ΑΠΟ ΤΟ Σ.Δ.Ε. ΧΑΝΙΩΝ

Τελετή αποφοίτησης

Το Σχολείο Δεύτερης Ευκαιρίας (Σ.Δ.Ε.) Χανίων οργανώνει τελετή αποφοίτησης - ημερίδα ευαισθητοποίησης της τοπικής κοινωνίας στον θεσμό του Σχολείου Δεύτερης Ευκαιρίας την Τετάρτη 29 Ιουνίου, στις 8 το βράδυ, στον χώρο του, στο 1ο Γυμνάσιο Χανίων.

Το πρόγραμμα έχει ως εξής:
8 μ.μ.: Έναρξη εκδήλωσης - Χαιρετισμός από τη διευθύντρια του Σ.Δ.Ε. Χανίων: Βενετία Δασκαλάκη "Σ.Δ.Ε.: Μια Δεύτερη Ευκαιρία"

Computer Science Division

Faculty members

- Garofalakis Minos, Professor
- Chalkiadakis Georgios, Assistant Professor
- Deligiannakis Antonios, Assistant Professor
- Lagoudakis Michail, Assistant Professor
- Mania Ekaterini, Assistant Professor
- Petrakis Euripides, Associate Professor
- Samoladas Vassilios, Assistant Professor
- Christodoulakis Stavros, Professor

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Minos Garofalakis
Rank: Professor
Years in rank: 3 years (since January 2, 2009)
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: SoftNet – Software Technology and Network
Applications Laboratory *(Director)*

A – Teaching

- Undergraduate courses taught
    - PLI-401: Algorithms and Complexity
    - PLI-406: Advanced Topics in Database Systems

- Graduate courses taught
    - PLI-627: Approximate Methods for Massive Databases and Data Streams

- Curriculum & course development
    - Lecture notes / slides developed
      Updates to slides for curriculum courses: PLI-401, PLI-406, PLI-627

B – Publications

- Publications in refereed journals
    - Submitted: those published/appeared (see below)
    - Accepted:
        - Graham Cormode, Minos Garofalakis, Peter J. Haas, Christopher M. Jermaine. ***Synopses for Massive Data: Samples, Histograms,***

Wavelets, Sketches", Foundations and Trends in Databases, 2012.
(300 pages)

- o Published:

- Publications in refereed conferences
  - o Published:
    - Daisy Zhe Wang, Michael J. Franklin, Minos Garofalakis, Joseph M. Hellerstein, and Michael L. Wick. *"Hybrid In-Database Inference for Declarative Information Extraction"*, *Proceedings of ACM SIGMOD'2011*, Athens, Greece, June 2011.
    - Vibhor Rastogi, Nilesh Dalvi, and Minos Garofalakis. *"Large-Scale Collective Entity Matching"*, *Proceedings of VLDB'2011 (PVLDB, Vol. 4, No. 4)*, Seattle, Washington, August 2011.
    - Evangelos E. Papalexakis, Nicholaos D. Sidiropoulos, and Minos Garofalakis. *"Reviewer Profiling Using Sparse Matrix Regression"*, *OEDM'2010 Workshop (in conjuction with IEEE ICDM'2010)*, Sydney, Australia, December 2010.

- Patents
  - o *GRANTED*

    1. Ashwin Machanavajjhala, Erik Vee, Minos Garofalakis, and Jayavel Shanmugasundaram. *"System and/or Method for Processing Events"*, *U.S. Patent No. 7,890,494*, Issued February 15, 2011. (Filed October 2007)

    2. Graham Cormode and Minos Garofalakis. *"Fast Approximate Wavelet Tracking on Streams"*, *U.S. Patent No. 7,885,911*, Issued February 8, 2011. (Filed March 2006)

    3. Abhinandan Das, Sumit Ganguly, Minos Garofalakis, and Rajeev Rastogi. *"Distributed Set-Expression Cardinality Estimation"*, *U.S. Patent No. 7,873,689*, Issued January 18, 2011. (Filed December 2004)

D – Funded Projects

- Current projects:
  - o *Fellow & Scientist in Charge* for *"HeisenData: Towards a Next-Generation Uncertain-Data Management System"*, FP7 Marie-Curie International Re-integration Grant (Fellow's budget 100.000€) 2010-2014.
  - o *TUC Principal Investigator* for *"LIFT – Using Local Inference in Large-Scale Distributed Systems"*, FP7 FET-Open Collaborative STREP Project (Total budget 2.5M€, TUC budget 482.500€), 2010-2013.

- Project proposals submitted:
  - 1 FP7-ICT-STREP proposal submitted

E – Professional service

- Associate Editor duties
  - **ACM Transactions on Database Systems (TODS):** *Associate Editor* (2008 -- 2011)
  - **IEEE Transactions on Knowledge and Data Engineering (TKDE):** *Associate Editor* (2007 -- 2011)
  - **Foundations and Trends in Databases:** *Editorial Board Member* (2006 -- present)
  - **Statistical Analysis and Data Mining (SAM):** *Editorial Board Member* (2010 -- present)
  - **Knowledge and Information Systems (KAIS):** *Editorial Board Member* (2010 -- present)

- Conference Technical Program Committee service
  - **Conference Program Committees:** IEEE ICDE (2010,2011), SIAM SDM (2010,2011), ASONAM (2010,2011), VLDB'2010, ACM CIKM (2010,2011), EDBT'2011 *(PC Group Leader),* IEEE ICDM'2011

F – Service to the Department and the School

- Departmental responsibilities
  - *ECE Department Chair* (August 2011 – present)
- School-level responsibilities
  - *Member of the Management Board* of the Company for the Exploitation of the Estate and the Technological Park of the Technical University of Crete (www.eadip.tuc.gr, May 2009 – present)

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Kostas Athanasoglou (MSc student, TUC)
    - Vagelis Vazaios (MSc student, TUC)
  - PhD. And M.Sc. degrees awarded
    - Daisy Zhe Wang (*Ph.D., Univ. of California, Berkeley, 2011*; Co-advised with Michael J. Franklin and Joseph M. Hellerstein)

Thesis: ***"Extracting and Querying Probabilistic Information in BAYESSTORE"*** *Current position: Assistant Professor, Computer and Information Science and Engineering, University of Florida.*

- Undergraduate students supervised
    - Diploma theses in progress (supervisor)
        - 7 theses in progress (G. Fragiadoulakis, V. Prokopi, I. Perros, L. Soulas, K. Aretakis, G. Komninos, S. Papagrigoriou)
    - Diploma theses completed (supervisor)
        - Lampros Papageorgiou. Thesis: "Lineage Processing in Uncertain Operator Pipelines", TUC, July 2011.
        - Georgios Christopoulos. Thesis: "Fast, Efficient Data Stream Clustering Using Hadoop-Online", TUC, July 2011.
        - Apostolos Nydriotis. Thesis: "Dynamic Web-Service Mashups", TUC, December 2010.
        ACM SIGMOD'2011 Undergraduate Poster Award

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Georgios Chalkiadakis
Rank: Assistant Professor (awaiting official appointment)
Years in rank: since March 2011
Division: Computer Science
Lab affiliation: Intelligent Systems

A – Teaching

- Undergraduate courses taught
  - COMP-517 Multiagent Systems [Spring 2011]
  - • COMP-417 Artificial Intelligence [Spring 2011]

- Curriculum & course development
  - New courses / labs developed
    1. COMP-517 Multiagent Systems [Spring 2011]

  - Lecture notes / slides developed
    1. For the courses I taught

B – Publications

- Publications in refereed journals
  Published:
  1. Georgios Chalkiadakis and Craig Boutilier: Sequentially Optimal Repeated Coalition Formation under Uncertainty". Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS). **Published online first**, 5 November 2010.
  2. Georgios Chalkiadakis, Edith Elkind, Evangelos Markakis, Maria Polukarov and Nicholas R. Jennings: "Cooperative Games with Overlapping Coalitions". Journal of Artificial Intelligence Research (JAIR), vol. 39, pages 179-216, September 2010.

- Publications in refereed conferences
  - Published: Georgios Chalkiadakis, Valentin Robu, Ramachandra Kota, Alex Rogers and Nicholas R. Jennings: "Cooperatives of Distributed Energy Resources for Efficient Virtual Power Plants". In Proc. of the 10th Int. Conf. on Autonomous Agents and Multiagent Systems (AAMAS-2011), Taipei, Taiwan, May 2011.

E – Professional service

- Conference Technical Program Committee service

  - Program Committee member: the 10th International Conference on Autonomous Agents and Multiagent Systems, Taipei, Taiwan, May 2011 (AAMAS2011)
  - Program Committee member: the 25th AAAI Conference on Artificial Intelligence, San Francisco, California, 2011 (AAAI-11)
  - Program Committee member: the 3rd International Conference on Agents and Artificial Intelligence, Rome, Italy, January 2011 (ICAART-2011)
  - International workshops: CoopMAS2011, MSDM2011

- Conference Organization (specify role)

  - Tutorial Speaker: AAMAS-2011 (Taipei,Taiwan) May 2011
  - Tutorial Speaker: IJCAI-2011 (Barcelona, Catalonia, Spain) July 2011

- Reviewing activities
  - Reviewer for the conferences and workshops I was a Program Committee member at (mentioned above)
  - Reviewer for the "Artificial Intelligence" journal
  - Reviewer for the "Journal of Artificial Intelligence Research (JAIR)"
  - Reviewer for the "Journal of Autonomous Agents and Multiagent Systems (JAAMAS)

G – Advising

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Began (unofficially) supervising the student Thanos Panagopoulos (starting date: July 2011)

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Antonios Deligiannakis
Rank: Assistant Professor
Years in rank: 3 ½
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Software Technology and Network Applications Laboratory (Softnet)

A – Teaching

- Undergraduate courses taught
  - Comp 102: Structured Programming
  - Comp 506: Data Processing and Handling in Sensor Networks

- Graduate courses taught
  - Comp 626: Data Processing and Handling in Sensor Networks
  - Comp 622: Special Issues in Database Systems

B – Publications

- Publications in refereed journals
  - Submitted: those published/appeared (see below)
    - N. Giatrakos, Y. Kotidis, A. Deligiannakis, V. Vassalos, Y. Theodoridis. In-Network Approximate Computation of Outliers with Quality Guarantees. Information Systems, 2011.
  - Accepted:
    - Antonios Deligiannakis and Yannis Kotidis. Detecting Proximity Events in Sensor Networks. Information Systems, 2011.

- - - N. Giatrakos, Y. Kotidis, A. Deligiannakis, V. Vassalos, Y. Theodoridis. In-Network Approximate Computation of Outliers with Quality Guarantees. Information Systems, 2011.
  - o Published:
    - Antonios Deligiannakis, Yannis Kotidis, Vassilis Stoumpos, Alex Delis. Collection Trees for Event-Monitoring Queries. Information Systems.
    - Antonios Deligiannakis and Yannis Kotidis. Detecting Proximity Events in Sensor Networks. Information Systems, 2011.
    - N. Giatrakos, Y. Kotidis, A. Deligiannakis, V. Vassalos, Y. Theodoridis. In-Network Approximate Computation of Outliers with Quality Guarantees. Information Systems, 2011.

- Publications in refereed conferences
  - o Submitted: those published/appeared (see below)
    - S. Burdakis, A. Deligiannakis. Detecting Outliers in Sensor Networks using the Geometric Approach. Submitted to the 28th International Conference on Data Engineering (ICDE), 2012.
    - V. Dritsou, P. Constantopoulos, A. Deligiannakis, Y. Kotidis. Optimizing Query Shortcuts in RDF Databases. Submitted to the 8th Extended Semantic Web Conference (ESWC), 2011.
    - V. Dritsou, P. Constantopoulos, A. Deligiannakis, Y. Kotidis. Shortcut Selection in RDF Databases. Submitted to the 2nd International Workshop on Data Engineering meets the Semantic Web (DESWeb), 2011.
    - Tasos Arvanitis, Antonios Deligiannakis. "Discovering Attractive Products based on Influence Sets". Submitted to ICDE 2012.
    - Tasos Arvanitis, Antonios Deligiannakis. "Discovering Attractive Products based on Influence Sets". Submitted to EDBT 2012.
  - o Accepted:
    - S. Burdakis, A. Deligiannakis. Detecting Outliers in Sensor Networks using the Geometric Approach. 28th International Conference on Data Engineering (ICDE), 2012.
    - V. Dritsou, P. Constantopoulos, A. Deligiannakis, Y. Kotidis. Optimizing Query Shortcuts in RDF Databases. 8th Extended Semantic Web Conference (ESWC), 2011.
    - V. Dritsou, P. Constantopoulos, A. Deligiannakis, Y. Kotidis. Shortcut Selection in RDF Databases. 2nd International Workshop on Data Engineering meets the Semantic Web (DESWeb), 2011.
  - o Published:
    - Mihaela A. Bornea, Antonios Deligiannakis, Yannis Kotidis, Vasilis Vassalos. Semi-Streamed Index Join for Near-Real Time Execution of ETL Transformations. IEEE ICDE 2011.
    - V. Dritsou, P. Constantopoulos, A. Deligiannakis, Y. Kotidis. Optimizing Query Shortcuts in RDF Databases. 8th Extended Semantic Web Conference (ESWC), 2011.

- V. Dritsou, P. Constantopoulos, A. Deligiannakis, Y. Kotidis. Shortcut Selection in RDF Databases. 2nd International Workshop on Data Engineering meets the Semantic Web (DESWeb), 2011.

D – Funded Projects

- Project proposals submitted:
    - 3 Thales proposals. 2 were Funded.

E – Professional service

- Conference Technical Program Committee service
    - European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD 2011)
    - International Conference on Mobile Data Management (MDM 2011)
    - 13th International Conference on Data Warehousing and Knowledge Discovery (DaWaK 2011)
    - ACM Workshop on Data Engineering for Wireless and Mobile Access (MobiDE 2011)
    - International Conference on Geosensor Networks (GSN 2011)
    - International Conference on Advanced Geographic Information Systems, Applications, and Services (GEOProcessing 2011)
    - Hellenic Data Management Symposium (HDMS 2011)

- Reviewing activities
    - VLDB Journal
    - Journal of Computer and System Sciences (JCSS)

F – Service to the Department and the School

- Departmental responsibilities
    - Consultant in undergraduate studies (2nd semester courses, Spring 2010)
- School-level responsibilities
    - Department's representative to the senate since September 2011.

G – Advising

- Active graduate students supervised
    - Ph.D. and M.Sc. students supervised
        - Stelios Mammas
        - Yannis Flouris
        - Konstantinos Tsakonas

- Stergios Charalambopoulos

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Smalis Sklavos
    - Yannis Papadakis
    - Yannis Xarxaros
    - Antonios Igglezakis
    - Evina Zografou
  - Diploma theses completed (supervisor)
    - Sofia Georgiakaki
    - Dionisios Kalogiropoulos
    - Makis Mpousgos
    - Eytyxios Babourakis
    - Aleka Seliniotaki
    - Manos Vogiatzis
    - Sabbas Bourdakis

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Michail G. Lagoudakis
Rank: Assistant 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 513 – Autonomous Agents (Fall 2010)
    - COMP 402 – Theory of Computation (Spring 2011)
- Graduate courses taught
    - COMP 625 – Autonomous Agents (Fall 2010)
    - COMP 613 – Machine Learning (Spring 2011) – co-taught with V. Digalakis
- Labs taught
    - COMP 513 – Autonomous Agents Laboratory (Fall 2010)
- Curriculum & course development
    New courses / labs developed
        Added new laboratory exercises to Autonomous Agents (ugrad)
    Lecture notes / slides developed
        Developed lecture slides for Machine Learning
        Updated lecture slides for Theory of Computation
        Updated lecture slides for Autonomous Agents (undergraduate)
        Updated lecture slides for Autonomous Agents (graduate)

B – Publications

- Publications in refereed journals
    - Published:

1. Vasileios Vasilikos and **Michail G. Lagoudakis**, "Optimization of Heuristic Search using Recursive Algorithm Selection and Reinforcement Learning", Annals of Mathematics and Artificial Intelligence, 60 (1-2), 2010, pp. 119–151.
2. Diomidis Katzourakis, Yannis Papaefstathiou, and **Michail G. Lagoudakis**, "Open-Source Scaled Automobile Platform for Fault-Tolerant Electronic Stability Control", IEEE Transactions on Instrumentation and Measurement, 59 (9), 2010, pp. 2303–2314.

- Publications in refereed conferences
  - Published:
    1. Jason Pazis and **Michail G. Lagoudakis**, "Reinforcement Learning in Multidimensional Continuous Action Spaces", Proceedings of the 2011 IEEE International Symposium on Adaptive Dynamic Programming and Reinforcement Learning (ADPRL 2011), Paris, France, April 2011, pp. 97–104.
    2. Ioannis Rexakis and **Michail G. Lagoudakis**, "Directed Exploration of Policy Space using Support Vector Classifiers", Proceedings of the 2011 IEEE International Symposium on Adaptive Dynamic Programming and Reinforcement Learning (ADPRL 2011), Paris, France, April 2011, pp. 112–119.

- Book chapters
  - Published:
    1. **Michail G. Lagoudakis**, "Value Function Approximation" in Claude Sammut and Geoffrey I. Webb (Eds.), Encyclopedia of Machine Learning, Springer, 2010, pp. 1011–1021.
    2. **Michail G. Lagoudakis**, "Least-Squares Reinforcement Learning Methods" in Claude Sammut and Geoffrey I. Webb (Eds.), Encyclopedia of Machine Learning, Springer, 2010, pp. 595–600.

C – Awards & Distinctions

- 2nd place award
  - Standard Platform League Open Challenge, Robot Soccer World Cup – RoboCup 2011, Istanbul, Turkey, July 2011.
- Invited Speaker
  - "RoboCup: A Challenge Problem for Artificial Intelligence", Centro Politecnico Superior, University of Zaragoza, Spain, November 2010.
- Invited Speaker
  - "RoboCup: A Challenge Problem for Artificial Intelligence", Department of Computer Science, University of Ioannina, Greece, March 2011.

D – Funded Projects

- Current projects:

- o "CALR: Coordinated Action and Learning in RoboCup", *Basic Research Grants,* Research Office (ELKE), Technical University of Crete, January 2009 – December 2010, Contract: TUC-242, PI: M. G. Lagoudakis, Total/PI's Budget: 12,000€ /12,000€.
  - o "Kouretes: TUC RoboCup Team", *Sponsoring Program*, Molto-Chipita S.A., January 2010 – December 2011, Contracts: 80128, 80484, PI: M. G. Lagoudakis, Budget: 37,000€.
  - o "TABS: Tackling Arthritis using a Biomechanical and Systems Biology approach", *Thales – Support of the Interdisciplinary and/or Inter-Institutional Research and Innovation*, National Strategic Reference Network (NSRF) Programme, PI: L. Alexopoulos, NTUA.
  - o "NOPTILUS: autonomous, self-learning, optimal, and complete underwater systems", *Integrated Project, Information and Communication Technologies (ICT)*, Seventh Framework Programme (FP7), European Commission, April 2011 – April 2015, Contract: INFSO-ICT-270180, PIs: N. Sidiropoulos and M. G. Lagoudakis, Budget: 524,300€ (for TSI/TUC).
- Project proposals submitted:
  - o "ATLANTAS: Development of a prototype 3-D touch table for interactive 3-D geographical information system", *Cooperation 2011 - Partnerships of Production and Research Institutions in Focused Research and Technology Sectors*, National Strategic Reference Network (NSRF) Programme, Proposal Leader: P. Partsinevelos, MRED, TUC.

E – Professional service

- Associate Editor duties
  - o *Editorial Board*, Journal of Intelligent Learning Systems and Applications
- Society Technical Committee duties
  - o *Standard Platform League Executive Committee*, RoboCup Federation
  - o *Technical Committee on Robot Learning*, IEEE Robotics and Automation Society
- Conference Technical Program Committee service
  - o *28th International Conference on Machine Learning (ICML 2011)*
  - o *25th AAAI Conference on Artificial Intelligence (AAAI 2011)*
  - o *15th International RoboCup Symposium 2011*
  - o *22nd International Joint Conference on Artificial Intelligence (IJCAI 2011)*
  - o *3rd International Conference on Agents and Artificial Intelligence 2011*
  - o *10th Intl Joint Conf on Autonomous Agents and Multiagent Systems 2011*
- Reviewing activities
  - o *IEEE Transactions on Robotics (IEEE-TRO)*
  - o *IEEE International Conference on Robotics and Automation 2011 (ICRA)*
  - o *Artificial Intelligence Journal (AIJ)*

F – Service to the Department and the School

- Departmental responsibilities
  - *Departmental Representative*, TUC Library Committee
  - *Editor*, Undergraduate Program Guide (Greek and English)
- School-level responsibilities
  - *Editorial Board*, "TUC News" publication

G – Advising

- Graduate students
  - Ph.D. and M.Sc. theses in progress (supervisor)
    1. Rexakis Ioannis (Ph.D program), "Reinforcement Learning via Supervised Learning", Enrollment: 2006 – part-time
    2. Markos Mpervanakis (M.Sc. program), "Experimental Evaluation of Auction-Based Coordination", Enrollment: 2006 – on leave
    3. Jason Pazis (M.Sc. program), "Reinforcement Learning in Multidimensional Continuous Action Spaces", Enrollment: 2008
    4. Eleftherios Chatzilaris (M.Sc. program), "Coordinated Action and Learning in RoboCup ", Enrollment: 2009
    5. Ioannis Skoulakis (M.Sc. program), "Efficient Reinforcement Learning in Alternating Games ", Enrollment: 2010
  - Ph.D and M.Sc. theses completed (committee member)
    1. Alejandro Mosteo (Ph.D. program), "Multi-Robot Task Allocation in Service Robotics: From Unlimited to Limited Communication Range", Department of Computer Science and Systems Engineering, University of Zaragoza, Spain. Defended 26/11/2010.
    2. Polyxeni Arapi (M.Sc. program), "Framework and Architecture for Supporting eLearning Applications in Multimedia Digital Libraries", ECE, TUC. Defended 18/01/2011.
  - Ph.D and M.Sc. theses in progress (committee member)
    1. Anestis Fachantidis (Ph.D. program), "Knowledge Transfer in Reinforcement Learning", Department of Informatics, Aristotle University of Thessaloniki, Greece.
- Undergraduate students
  - Diploma theses completed (supervisor)
    1. Alexandros Paraschos, "Monas: A Flexible Software Architecture for Robotic Agents"
    2. Dimitrios Katsaitis, "Camera Motion and Depth Estimation from Image Sequences"
    3. Emmanuel-Theofanis Chourdakis, "Computer-Aided Music Composition using Inductive Logic Programming"
  - Diploma theses in progress (supervisor)
    1. Emmanuel Orfanoudakis, "Reliable Object Recognition for the RoboCup Domain"
    2. Iris Kyranou, "Path Planning for NAO Robots using an Egocentric Polar Occupancy Map"

3. Astero-Dimitra Tzanetatou, "Interleaving of Motion Skills for Humanoid Robots"
4. Angeliki Topalidou-Kyniazopoulou, "A CASE Tool for Robot-Team Behavior-Control Development"
5. Nikolaos Kofinas, "Forward and Inverse Kinematics for the Nao Humanoid Robot"
6. Maria Karamitrou, "Local and Global State Estimation and Representation for the RoboCup SPL League"
7. Georgios Koukoubedakis, "Development of an Educational Graphical Tool for Finite State Machine Simulation"
8. Stylianos Tsigdinos, "Learning to Play Backgammon using Reinforcement Learning"

- o Diploma theses completed (committee member)
  1. Stefanos Varotsis (DPEM), "Tetris with Reinforcement Learning"
  2. Chrysovalantis Kanellopoulos, "Web Application for Searching and Reviewing Restaurants based on Google Maps"
  3. Nikolaos Fragos, "Development of a 3D Open Environment Game with Opponent Autonomy"
  4. Konstantinos Malkogiannis, "Development of a 3D Game with Optimized Path Planning"
  5. Serafeim Bousgos, "Parallel Processing of Aggregation Queries in Sensor Networks with Mobile Nodes"
  6. Michail Tsinas, "Automated Transcription of Video Signals"
  7. Nikolaos Sepetas, "Restriction Checking on OWL:2 Temporal Ontologies"
  8. Ioannis Stavrakantonakis, "Interoperability support between OWL 2.0 and XML environments"
  9. Isidoros Tsouris, "3D Computer Gaming using a Game Engine"
  10. Eftichios Vavourakis, "Development of a Web Application for Searching and Evaluating Hotels based on Google Maps"
  11. Polyxeni Makri, "4D-Fluents Plug-In: A Tool for Handling Temporal Ontologies in Protégé"
  12. Antonis Dimas, "DOGi: An Automatic Image Annotation Tool for Images of Dog Breeds"
  13. Alexandros Georgogiannis, "Automatic Emotion Recognition from Speech Signals"
  14. Nikolaos Nikolaou, "Music Emotion Classification"
  15. Georgios Christopoulos, "Fast, Parallel Stream Clustering using Hadoop Online"
  16. Lambros Papageorgiou, "Lineage Processing in Uncertain Operator Pipelines"

- Student team projects
  - o Founder and leader of the RoboCup team Kouretes (**www.kouretes.gr**), the first and only Greek team participating in the RoboCup competition. Kouretes 2011 consisted of one graduate and five undergraduate ECE students working on their M.Sc./diploma theses.

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Katerina Mania
Rank: Assistant Professor
Years in rank: 5 years**,** 9 months
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Distributed Multimedia Information Systems and Applications (MUSIC)

A – Teaching

- Undergraduate courses taught
    - PLH 418 - Computer Graphics (Spring 2011)
    - PLH 101 – Introduction to Computers and Computer Science (Winter 2010)

- Graduate courses taught
    - PLH 612 – Visualization and Virtual Reality (Spring 2011)

- Curriculum & course development
    - Updated laboratory exercises for PLH 101
    - Updated large project work for PLH 418 and PLH 612
    - Updated lecture slides for PLH 101, PLH 418 and PLH 612

B – Publications

- Publications in refereed journals

    - Submitted

- Sylaiou S. **Mania K.**, Liarokapis F. 3, White M. (submitted 2011). Development and Evaluation of an Augmented Reality Educational Game, submitted to Virtual Reality, Springer Verlag.

  o Accepted
  - Mourkoussis, N., Rivera, F., Troscianko, T., Dixon, T., Hawkes, R., **Mania, K**. (to appear 2012). Slant Perception based on Gait in Real and Virtual Environments, *Human Computer Studies*, Elsevier.

  - **Mania, K.**, Medford, N., Christodoulou, G., Watten, P., Radulescu, E., Critchley, H. (2012, invited as one of best papers of IEEE VSGames 2011). An Interactive Lighting System for fMRI Rendering Fidelity Experiments, *International Journal of Interactive Worlds (IJIW)*, IBIMA Publishing.

  o Published
  - Mourkoussis, N., Rivera, F., Troscianko, T., Hawkes, R., Watten, P., **Mania, K.** (2010). Quantifying Fidelity for Virtual Environment Simulations Employing Memory Schema Assumptions. *ACM Transactions on Applied Perception,* 8(1), 2:2-2:21, ACM Press.

- Publications in refereed conferences

  o Submitted
  - **Christodoulou, G.**, Mania, K., Medford, N., Watten, P., Radulescu, E., Critchley, H. (submitted 2011). A Real-Time Lighting System for fMRI Displays, late-breaking talk*, ACM SIGGRAPHASIA,* Hong Kong, China.

  o Accepted
  - Papadakis, G., **Mania, K.,** Koutroulis, E. (2011). A System to Measure, Control and Minimize End-to-End Tracking Latency in Immersive Simulations. *ACM SIGGRAPH International Conference on Virtual Reality Continuum and its Applications in Industry 2011*, 581-584, Hong Kong China.

  - Papadakis, G., **Mania, K.,** Coxon, M., Koutroulis, E. (2011). The Effect of Tracking Delay on Awareness States in Immersive Virtual Environments: An Initial Exploration. *ACM SIGGRAPH International Conference on Virtual Reality Continuum and its Applications in Industry 2011*, 475-482, Hong Kong China.

- McNamara, A., **Mania, K.,** Gutierez, D. (2011). Perception in Graphics, Visualization, Virtual Environments and Animation. Half-day course, *ACM SIGGRAPHASIA*, Hong Kong, China.

- **Mania, K.,** Watten, P., Christodoulou, G., Rivera, F., Radulescu, E., Critchley, H., Medford, N. (2011). Exploring Behavioural Fidelity of Synthetic Stimuli while Immersed in fMRI Displays. *3rd International Conference in Games and Virtual Worlds for Serious Applications 2011 (VSGames 2011), IEEE sponsored,* 215-219, Athens Greece.

- o Other
  - **Mania, K.,** McNamara, A. (2011). Human-centered VR, AR and Gaming. Workshop proposal accepted, *10th ACM Siggraph Conference on Virtual Reality Continuum and Its Applications in Industry (VRCAI 2011)*, Hong-Kong, China.

C – Awards & Distinctions

- o Our research on cover of issue 8(1) of ACM Transactions on Applied Perception, http://www.music.tuc.gr/kmania/frontmatter.pdf

- o Our paper selected as one of the best papers of *IEEE sponsored 3rd International Conference in Games and Virtual Worlds for Serious Applications 2011 (VSGames 2011),* invited for publication in *International Journal of Interactive Worlds (IJIW)*, IBIMA Publishing.

D – Funded Projects

- Current projects (at the Technical University of Crete, Greece):

  - o 'Selective Rendering Algorithms based on Human Perception (Memory Schemas, HRAKLEITOS II, 2011-2014. PhD candidate Giwrgos Koulieris. Collaborators: Dr George Drettakis, INRIA Sophia Antipolis, Prof. Douglas Cunningham, Technical University of Cottbus, Germany.
  - o Internal TUC Major Equipment Award: Immersive eye tracking system.

- Projects awarded:
  - o 'Exploring Behavioural Fidelity of Lighting Simulations through Neuroscientific and Clinical Imaging Science Metrics for Normal and Patient Populations', Budget 15.000, Basic Research Funding from the Basic Research Committee of TUC, 2012-2014, Collaborators: Brighton and Sussex Medical School.

- o 'CYBERSENSORS: High Frequency Monitoring System for Integrated Water Resources Management of Rivers', THALIS, PI Prof. Nikos Nikolaidis, TUC ECE team Prof. Michalis Zervakis, Dr Euripides Petrakis, Dr Katerina Mania.

- Project proposals submitted:

  - o '3D ORO: Cooperative Intelligence for Emerging 3D Information for Personal Use', THALIS call, went through second round.
  - o 'SIMNEURO - Quantifying Simulation Fidelity through Neuroscientific and Clinical Imaging Science Metrics for Normal and Patient Populations', submitted to ARXIMIDIS call.
  - o '3DVISUNTY: Mathematical Modelling, Rendering and 3D Visualization of Uncertainty', submitted to ARISTEIA call (awaiting).
  - o 'AGORA - Emerging Collective Intelligence in Serious Gaming: Teaching Science inspired by the Ancient Greek Environment', submitted to SINERGASIA call (awaiting).

E – Professional service

- Associate Editor duties

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

- Editorial board
  - o International journal of Interactive Worlds, IBIMA Publishing (since spring 2010).

- Steering Committee
  - o ACM Siggraph Symposium on Applied Perception (previously ACM Siggraph Symposium on Applied Perception in Graphics and Visualization).

- Conference Technical Program Committee service - membership

  - o ACM Siggraph small conferences committee 2012
  - o International conference on Virtual Systems and Multimedia 2012, Italy
  - o Novel Gaze-Controlled Applications 2011, ACM sponsored, Karlscrona, Sweden.
  - o Eurographics Symposium on Rendering 2011 (EGSR), Prague.
  - o Computational Aesthetics 2011, sponsored by Eurographics, Canada.

- o 3rd IEEE International Conference in Games and Virtual Worlds for Serious Applications 2011, Greece.
- o ACM Siggraph Symposium on Applied Perception in Graphics and Visualisation, APGV 2011, France.
- o 2nd IEEE International Conference in Games and Virtual Worlds for Serious Applications 2010, Portugal.

- Workshop - Program Organization

  - o Program co-chair, 'Human Centred AR, VR and Gaming', workshop organized as part of the *10th ACM Siggraph Conference on Virtual Reality Continuum and Its Applications in Industry (VRCAI 2011)*, Hong-Kong, China.
  - o Publicity co-chair, *11th ACM Siggraph Conference on Virtual Reality Continuum and Its Applications in Industry 2012 (VRCAI 2012)*, Singapore.

- Reviewing activities

  - o *Reviewer for Presence, Tele-operators and Virtual Environments, ACM Transactions on Applied Perception, IEEE Transactions on Visualisation and Computer Graphics, IEEE Multimedia, International journal of Human Computer Studies, ACM Siggraph ASIA 2010, etc..*

F – Service to the Department and the School

- Departmental responsibilities

  - o Regular member of the Graduate Studies committee of ECE, 2010-2011, 2011-2012.
  - o Substitute member of the Undergraduate Studies committee of ECE, 2011-2012
  - o Studies' advisor for the Dept. of ECE, 2011-2012

G – Advising

- Active graduate students supervised

  - o Graduate students completed (at the University of Sussex)

    - Maria Sifniotis 'Mathematical Modelling and 3D Visualization of Archaeological Uncertainty' (Ph.D, Year of initial enrollment in Ph.D program 2003), submitted PhD thesis September 2011.

- Graduate students supervised (at the Technical University of Crete)

  - Giwrgos Alexandros Koulieris 'Selective Rendering Algorithms based on Human Perception Memory Schemas' (Ph.D candidate, accepted for admission to PhD program, April 2011)
  - Katerina Malisova '3D Conceptual Visualization' (M.Sc. candidate, year of enrollment July 2011)
  - Giwrgos Papadakis 'Minimizing Head Tracking Latency in Immersive Virtual Environments and Exploring its Impact on Spatial Cognition' (M.Sc. candidate, year of enrollment Dec. 2007, written-up)
  - Giannis Christodoulou 'A 3D Interactive Lighting System for fMRI Rendering Fidelity Experiments' (M.Sc. candidate, year of enrollment Sept. 2008, written-up, to be presented February 2011)
  - Nick Zervoudakis 'Perceptually motivated visualization schemes'(M.Sc. candidate, year of enrollment March 2010)

- Ph.D. students supervised (at the University of Sussex)

  - Fiona Rivera (Ph.D): Year of initial enrollment in Ph.D. program: 2005, intermitted.

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

  - Manolis Perakakis 'Blending Speech and Graphical User Interfaces: An empirical study on multimodal mobile interaction', supervised by Alexandros Potamianos.

- Undergraduate students

  - Diploma theses supervised (completed)

    - Isidoros Tsouris '3D Computer Gaming using a Game Engine' (defended March 2011).
    - Kwstis Malkogiannis '3D Game Development with Optimized Opponent Routes' (defended December 2010).
    - Kostas Kaggelidis 'Networked Application for 2D and 3D Architectural Design based on SVG, X3D and AJAX Technologies'(defended September 2010).
    - Nikolaos Fraggos 'Open plan 3D game populated by opponents'(defended October 2010).
    - Grigoris Nikiforakis 'Development of a 3D Networked Game' (defended November 2010).

  - Diploma theses supervised (in progress)

- Giannis Giakoumidakis 'A Methodology towards the photorealistic visualization of tsunamis applied to the past tsunami in Heraklion, Crete' (assigned, in progress).
- Grigoris Kondadakis 'Development of a 3D game populated by smart opponents' (assigned, in progress).
- Christos Paraskevas 'Investigating the effect of gender on spatial cognition' (in progress).
- Thedoros Theodorou 'Development of a 3D Strategy Game' (in progress).
- Stefan Petrovski 'Implementing 3D Smart TUC Campus' (in progress).

- Diploma theses (among others, committee member)

  - Valia Kalokiri, Giannis Skevakis, 'EUROMUSE: A web-based system for the management of MUSEum objects and their interoperability with EUROpeana'.
  - Nikolaos Tarantilis 'User Interface Management System for Event Visualization on Google Earth'.
  - Giwrgos Xatzigewrgakidis 'Management of Spatiotemporal Information in Semantic Web Applications'.
  - Dimitris Katsaitis 'Estimation of Three-Dimensional Camera Motion and Depth from Image Sequences'.
  - Serafeim Bousgos 'Parallel processing of sensor network queries'.
  - Anastasia Aggelopoulou 'Interoperability of Multimedia Metadata for Cultural Heritage based on International Standards'.

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Euripides G.M. Petrakis
Rank: Assoc. Prof. & Lab. Director
Years in rank: 9
Full-time or part-time: Full Time
Division: Computer Science
Lab affiliation: Intelligent Systems Laboratory

A – Teaching

- Undergraduate courses taught
    - Multimedia Data Management
    - Computer Vision
    - Data Structure and File Structures

- Graduate courses taught
    - Computer Vision
    - Special Topics in Information Systems

B – Publications

- Publications in refereed journals
    - Submitted: those published/appeared (see below)
    - Accepted:
    - Published:
        - Nikos Papadakis, Kostas Stravoskoufos, Evdoxios Baratis, **Euripides G.M. Petrakis**, Dimitris Plexousakis, "*PROTON: A Prolog Reasoner for Temporal ONtologies in OWL*", Expert Systems with Applications (ESWA), 2011, pp. 14660-14667.
        - Euthymios Drymonas, Kalliope Zervanou, **Euripides G.M. Petrakis**, "*Exploiting Multi-Word Term Similarity for Retrieval in*

Medical Document Collections: the TSRM Approach", Journal of Digital Information Management (JDIM), Vol. 8, No. 5, Oct. 2010, pp. 316-322.

- Publications in refereed conferences
    - Submitted: those published/appeared (see below)
    - Accepted:
    - Published:
        - Angelos Hliaoutakis, **Euripides G.M. Petrakis**, "*Automatic Document Categorization by User Profile in Medline*:, 15th International Symposium on Health Information Management Research (ISHIMR'2011), 8-9 September 2011, in Zurich, Switzerland, pp. 46-55.
        - Sotiris Batsakis, Kostas Stravoskoufos, **Euripides G.M. Petrakis**, "*Temporal Reasoning for Supporting Temporal Queries in OWL 2.0*", 15th International Conference on Knowledge-Based and Intelligent Information & Engineering Systems, 12-14 September 2011, Kaiserslautern, Germany.
        - Konstantia Moirogiorgou, Grigorios h. Tsagkatakis, Michalis Zervakis, **Euripides G.M. Petrakis**, "*A Real-Time System for HDTV Video Transmission over IP Networks*", Signal and Image Processing and Applications (SIPA 2011), June 22-24, 2011, Heraklion, Crete, Greece.
        - Sotiris Batsakis, **Euripides G.M. Petrakis**, "*SOWL: A Framework for Handling Spatio-Temporal Information in OWL 2.0*", 5th International Symposium on Rules: Research Based and Industry Focused (RuleML 2011), Barcelona, Spain, July 19-21, 2011.
        - Angelos Hliaoutakis, **Euripides G.M.Petrakis**, "*Automatic Term Identification by User Profile for Document Categorization in Medline*", 15th Intern. Conference Applications of Natural Language to Information Systems (NLDB'2011), pp. 230-233, Springer-Verlag vol. LNCS 6716, Alicante, Spain, June 28-30, 2011 (short paper).
        - Sotiris Batsakis, **Euripides G.M. Petrakis**, " *Representing and Reasoning over Spatio-Temporal Information in OWL 2.0*", 6th Semantic Web Applications and Perspectives (SWAP' 2010), September 21-22, Bressanone, Italy.
        - Sotiris Batsakis, **Euripides G.M. Petrakis**, "*Representing Temporal Knowledge in the Semantic Web: the Extended 4d-fluents Approach*", 2nd International Workshop on Combinations of Intelligent Methods and Applications (CIMA' 2010), October 27-29, 2010, Arras, France.
        - Paraskevi Raftopoulou, **Euripides G.M. Petrakis**, "*Peer Rewiring in Semantic Overlay Networks under Churn*", 18th International Conference on Cooperative Information Systems (CoopIS' 2010), Heraklion, Crete, Greece, October 27-29, 2010, pp. 573-581.

- Sotiris Batsakis, **Euripides G.M. Petrakis**, "*SOWL:Spatio-temporal Representation, Reasoning and Querying over the Semantic Web*", 6th International Conference on Semantic Systems (I-SEMANTICS' 2010), Graz, Austria, September 1-3, 2010.

- Books and edited book chapters
  1. S.Batsakis, **E.G.M. Petrakis**, "Integrated Ontologies for Spatial Scene Descriptions", Qualitative Spatio-Temporal Representation and Reasoning: Trends and Future Directions, IGI Global (book chapter), S. M Hazarika (Eds), 2011.

- Patents
  - *GRANTED*
  - *FILED*

C – Awards & Distinctions

D – Funded Projects

- Current projects:

  - **YPERTHEN: Computational Tools and Services for Diagnosis and Personalized Treatment of Cancer (2011-2013)**
    - **Funding Agency:** INTERREG Greece-Cyprus
    - **Participants:** Univ. of Cyprus, FORTH, TUC
    - **Co-Principal Investigator for TUC:** Euripides G.M. Petrakis
  - **RT3S: Real Time Simulation for Safer Vascular Stenting (2011-2014)**
    - **Funding Agency:** FP7-ICT-STREP, Theme ICT-2009.5.2 (Patient Safety)
    - **Participants:** Politecnico di Milano, INVATEC, SCS Srl, Univ. of Berdfordshire, ANSYS FR, Univ. of Sheffield, TUC, AUSEBA S.L., GLOBO S.A.
    - **Co-Principal Investigator for TUC:** Euripides G.M. Petrakis
  - **POTRAIN: Postive Thninking Training (2011-2012)**
    - **Funding Agency**: Education, Audiovisual and Culture Executive Agency, Lifelong Learning: Comenius, ICT and Languages
    - **Participatnts**: DIAN Greece, INSPECTORATUL SCOLAR AL MUNICIPI, TUC, Colegiul Tehnic "Media", State Institute of Vocational Education, 138мо СОУ "Проф. Васил Златарски, The Moraitis School
    - **Principal Investigator for TUC:** Euripides G.M. Petrakis

- **SOWL: Spatio-Temporal OWL for Reasining and Querying over the Semantic Web (2009-2011)**
  - o **Funding Agency**: Research Committee of TUC
  - o **Participants**: TUC
  - o **Principal Investigator for TUC:** Euripides G.M. Petrakis

- Project proposals submitted: Several in FP7, Lifelong Learning: Comenius, THALIS, SYNERGASIA

E – Professional service

- Associate Editor duties

- Society Technical Committee duties

- Conference Technical Program Committee service

  - o **P**rogram committee member **and** Session chair - session on Clinical Informatics, 15th International Symposium on Health Information Management Research (ISHIMR'2011), 8-9 September 2011, in Zurich, Switzerland.
  - o Program committee member, in Terra Cognita 2011 Workshop (http://asio.bbn.com/terracognita2011/), in Conjunction with the 10th International Semantic Web Conference (ISWC).
  - o Program committee member "International Symposium on Visual Computing (ISVC)" 2010, 2011.
  - o **P**rogram committee member **and** Session chair - session 6 on Feature Extraction and Pattern Recognition) στο Intern. Conference on Image Analysis and Recognition (ICIAR'2010), Povoa-de-Vatzim, Portugal, June 2010, 2011

- Conference Organization (specify role)
- Reviewing activities
  - o In several Conferences & Journal in Information Systems, Semantic Web, Computer Vision.

F – Service to the Department and the School

- Departmental responsibilities
  - o Laboratory Director
- School-level responsibilities

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - A. Hliaoutakis, PhD Student, "A Freamework for Handling Medical Information in the Semantic Web"

  - PhD. And M.Sc. degrees awarded
    - Sotirios Batsakis, "SOWL: A Framework for Handling Spatio-Temporal Information in OWL", PhD thesis, Department of Electronic and Computer Engineering, Technical University of Crete, Greece, December 2011.
    - Evangelia Mavrogiannaki: "The time dimension in Clinical Guidelines for the management of abnormal gynecological exam results", Master's thesis, Department of Electronic and Computer Engineering, Technical University of Crete, Greece, June 2011.

- Undergraduate students supervised

  - Diploma theses in progress (supervisor)

    4 diploma theses, in progress

  - Diploma theses completed (supervisor)
    - Hatzigeorgakidis G.: "Management of Spatiotemporal Information in Semantic Web Applications", July 2011.
    - Dimas A.: DOGi: "An Automatic Image Annotation Tool for Images of Dog Breeds, July 2011.
    - Makri X.: 4D-Fluents Plug-In: A Tool for Handling Temporal Ontologies in Protégé", May 2011.
    - Sepetas N.: "Restriction Checking on OWL:2 Temporal Ontologies", February 2011.
    - G. Hristodoulou, "CHOROS: A Reasoning and Query Engine for Qualitative Spatial Information, October 2011 (Thesis defense scheduled for March 2012)
    - A. Preventis, "Chronos: A Tool for Handling Temporal Ontologies in Protégé", October 2011 (Thesis defense scheduled for March 2012)

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sept 1 2010 to Aug 31 2011

Name: Vasilis Samoladas
Rank: Assistant Professor
Years in rank: 7
Full-time or part-time: Full-time
Division: Informatics
Lab affiliation: Software technology and network applications (SoftNet)

A – Teaching

- Undergraduate courses taught
    - ΠΛΗ-301 Λειτουργικά συστήματα
    - ΠΛΗ-414 Κατανεμημένα συστήματα
    - ΠΛΗ-416 Επεξεργασία πολυδιάστατων δεδομένων

- Graduate courses taught
    - ΠΛΗ-602 Κατανεμημένα συστήματα
    - ΠΛΗ-628 Επεξεργασία πολυδιάστατων δεδομένων
    -

Labs taught
      ΠΛΗ-301 Λειτουργικά Συστήματα
      ΠΛΗ-414 Κατανεμημένα Συστήματα

B – Publications

- Publications in refereed conferences
    - Submitted

1. George Tsatsanifos, Vasilis Samoladas, Efficient Load-Balancing for Peer-to-Peer Networks, submitted to P2P
2. George Tsatsanifos, Vasilis Samoladas: Towards Balanced Allocations for DHTs. submitted to DEXA
   - o Accepted
     1. George Tsatsanifos, Vasilis Samoladas: Towards Balanced Allocations for DHTs. DEXA (2) 2011: 485-492

E – Professional service

- Associate Editor duties
- Society Technical Committee duties
- Conference Technical Program Committee service
- Conference Organization (specify role)
- Reviewing activities
- Participation in National Committees (e.g., EΔET)
- Other

F – Service to the Department and the School

- School-level responsibilities
  1. Member of Information Systems (Mihanografiko) Executive Board Committee.
  2. Member of Research and Teachning Personnel Association (Sillogos DEP) Executive Board.
  - o Other
    - o TUC representative in EDET Open Source Inititiative.

G – Advising

- Active graduate students supervised
  - o Ph.D. and M.Sc. students supervised
    1. Michalis Argiriou
    2. Katerina Asimoglou
    3. Spiros Ninios
    4. Georgia Vlachou
  - o PhD. And M.Sc. degrees awarded
    1. Stergios Charalambakis (MSc)

- Undergraduate students supervised
  - o Diploma theses in progress (supervisor)
    1. Dimitris Voliotis

2. Vasilis Vourlakis
- o Diploma theses completed (supervisor)
    1. Georgia Vlachou
    2. Vasilis Kasimatis

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Stavros Christodoulakis
Rank: Professor
Years in rank: 23
Full-time or part-time: Full-Time
Division: Computer Science
Lab affiliation: Director Distributed Multimedia Systems and Applications (MUSIC)

A – Teaching

- **Undergraduate courses taught**
  - Data Bases
  - Human Computer Interaction
  - Web Engineering

- **Graduate courses taught**
  - Human Computer Interaction (joint with the undergraduate)
  - Web Engineering (joint with the undergraduate)

- **Labs taught**
  - For all three supervised

- **Curriculum & course development**
  - For all three new course material
  - For all three new lab material

B – Publications

- Publications in refereed conferences

    Submitted: those published/appeared (see below)

    o Makris, Kalokyri, Skevakis, Gioldasis, Kazasis, Christodoulakis : Bringing Environmental Culture Content into the Europeana.eu portal: The Natural Europe Digital Libraries Federation infrastructure, Fifth Metadata and Semantics Research Conference, MTSR 2011
    o Mylonakis M., Arapi P., Pappas N., Moumoutzis N., Christodoulakis S.: Metadata Management and Sharing in Multimedia Open Learning Environment (MOLE), Fifth Metadata and Semantics Research Conference, MTSR 2011
    o Pappas N., Arapi P., Moumoutzis N., Mylonakis M., Christodoulakis S.: The Multimedia Open Learning Environment (MOLE), In Proceedings of EDEN2011 Open Classroom Conference, Athens, Greece, October 2011
    o Panteli L., Tsinaraki C., Ragia L., Kazasis F., Christodoulakis S. MObile Multimedia Event Capturing and Visualization (MOME), In the proceedings of the FTRA MUE 2011 Conference, 28-30 June, 2011
    o Agelopoulou A., Tsinaraki C., Christodoulakis S. Mapping MPEG-7 to CIDOC/CRM In the proceedings of the International Conference on Theory and Practice in Digital Libraries (TPDL, x-ECDL) 2011 Conference, 26-28 September, 2011
    o Tarantilis N., Tsinaraki C., Kazasis F., Christodoulakis S., Gioldasis N. EVISUGE: Event VISUalization on Google Earth In the proceedings of SMAP 2011
    o Lameras P., Smith D., Moumoutzis N., Christodoulakis S., Ovcin E., Stylianakis G. Transforming teaching and learning: Changing the pedagogical approach to using educational programming languages Short paper presented at the ALT-C conference, Nottingham, UK, 7-9 September, 2010
    o Makris K., Gioldasis N., Bikakis N., Christodoulakis S. Ontology Mapping and SPARQL Rewriting for Querying Federated RDF Data Sources In the Proceedings of the 9th International Conference on Ontologies, DataBases, and Applications of Semantics (ODBASE), Oct. 2010
    o Stavrakantonakis G., Tsinaraki C., Bikakis N., Gioldasis N., Christodoulakis S.. SPARQL2XQuery 2.0: Supporting Semantic-based Queries over XML Data In the Proceedings of the 5th International Workshop on Semantic Media Adaptation and Personalization (SMAP), Sep. 2010

    Accepted:

    o Makris, Kalokyri, Skevakis, Gioldasis, Kazasis, Christodoulakis : Bringing Environmental Culture Content into the Europeana.eu portal: The Natural Europe Digital Libraries Federation infrastructure, Fifth Metadata and Semantics Research Conference, MTSR 2011
    o Mylonakis M., Arapi P., Pappas N., Moumoutzis N., Christodoulakis S.: Metadata Management and Sharing in Multimedia Open Learning Environment (MOLE), Fifth Metadata and Semantics Research Conference, MTSR 2011

o Pappas N., Arapi P., Moumoutzis N., Mylonakis M., Christodoulakis S.: The Multimedia Open Learning Environment (MOLE), In Proceedings of EDEN2011 Open Classroom Conference, Athens, Greece, October 2011

Published:

o Panteli L., Tsinaraki C., Ragia L., Kazasis F., Christodoulakis S. MObile Multimedia Event Capturing and Visualization (MOME), In the proceedings of the FTRA MUE 2011 Conference, 28-30 June, 2011
o Tarantilis N., Tsinaraki C., Kazasis F., Christodoulakis S., Gioldasis N. EVISUGE: Event VISUalization on Google Earth In the proceedings of SMAP 2011
o Lameras P., Smith D., Moumoutzis N., Christodoulakis S., Ovcin E., Stylianakis G. Transforming teaching and learning: Changing the pedagogical approach to using educational programming languages Short paper presented at the ALT-C conference, Nottingham, UK, 7-9 September, 2010
o Makris K., Gioldasis N., Bikakis N., Christodoulakis S. Ontology Mapping and SPARQL Rewriting for Querying Federated RDF Data Sources In the Proceedings of the 9th International Conference on Ontologies, DataBases, and Applications of Semantics (ODBASE), Oct. 2010
o Stavrakantonakis G., Tsinaraki C., Bikakis N., Gioldasis N., Christodoulakis S.. SPARQL2XQuery 2.0: Supporting Semantic-based Queries over XML Data In the Proceedings of the 5th International Workshop on Semantic Media Adaptation and Personalization (SMAP), Sep. 2010

- **Books and edited book chapters**

  o Tsinaraki C., Christodoulakis S. Domain Knowledge Representation in Semantic MPEG-7 Descriptions In "The Handbook of MPEG applications: Standards in Practice", Wiley Publishers 2010, pp 293-316 Nov. 2010

D – Funded Projects

Current projects:

- pSkills: Programming Skills Development in Secondary Education by means of Modern Educational Programming Languages, EU, Principal Investigator for TUC.
- Organic.MedNet: Developing the Skills of Organic Agriculture Trainers for the Mediterranean, EU, Principal Investigator for TUC.
- NaturalEurope: Natural History & Environmental Cultural Heritage in European Digital Libraries for Education, EU, Principal Investigator for TUC.

Project proposals submitted:

- ODS, Open Discovery Space, EU, (accepted), Principal Investigator for TUC.
- Open Learning, ESPA, (accepted), Principal Investigator for TUC.

E – Professional service

- Conference Technical Program Committee service
  TPDL 2011

- Conference Organization (specify role)
  EDBT Board, TPDL Board

F – Service to the Department and the School

- Departmental responsibilities
    o Graduate Program Committee
    o Lab Director

- School-level responsibilities
    o Member of the Board of Institute of Telecommunications
    o Member MODIP

G – Advising

- Active graduate students supervised
  Ph.D. and M.Sc. students supervised
    o Arapi, PhD
    o Kalokyri, MSc
    o Skevakis, MSC
    o Makris, MSC
    o Christoulakis, MSC
    o Pitsiladis, MSC
    o Mylonakis, MSC
    o Stylianakis, MSC
    o Trohatou, MSC

- Undergraduate students supervised
  Diploma theses in progress (supervisor)
    o Kyfonidis
    o Kanellidi
    o Kalabratsidou
    o Tarantilis
    o Stavrakantonakis
    o Moraiti
    o Kolokotronis
    o Klotsonis

  Diploma theses completed (supervisor)
    o Kalokyri

- o Skevakis
- o Makris

Systems Division

Faculty members

- Stavroulakis Petros

Annual Activity Report Template

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Peter Stavroulakis
Rank: Professor
Years in rank: 20
Full-time or part-time: Full-time
Division: Systems
Lab affiliation: Automation

A – Teaching

- Theory and Applications of Automatic Control
- Optimal Control
- Neural Networks (graduate course)

B – Publications

- Publications in refereed conferences
  - Accepted
  Efficient Zero-Knowledge Identification Based on One Way Boolean Transformations, IEEE Globecom 2011, Huston Texas, Dec. 5-9, 2011.

E – Professional service

- Guest Editor for a special issue of the International Journal of Multimedia Information security. The special issue internationally reviewed with the strictiest standards will be published soon. Responsible for all phases of the special issue.

- Associate Editor duties

- o International Journal on Communication and Information Security, published by John Wiley.
- o China Communications Journal.
- o International Satellite Systems and Networking.

- Society Technical Committee duties

  - o Founding Member of the IEEE Technical Committee on Communication and Information Security.

- Reviewing activities
  - o Reviewer of *IEEE* (4 papers)
  - o Electronic Letters (5 papers)
  - o International Journal of Communication Systems (5 papers)
  - o Communications Journal for the old IEE, now IET (3 papers)
  - o CHINA COMMUNICATIONS JOURNAL (20 papers)

F – Service to the Department and the School

- School-level responsibilities
  - o Member of board of regents
  - o ΕΛΚΕ
  - o Institute
    Founder of the only Institute in TUC out of six proposals from the TUC and twenty 26 from all other Greek Universities.
  - o Other

Electronics and Computer Architecture Division

Faculty members

- Balas Costas, Associate Professor
- Bucher Matthias, Assistant Professor
- Dollas Apostolos, Professor
- Kalaitzakis Kostas, Professor
- Koutroulis Eftichios, Assistant Professor
- Papaefstathiou Ioannis, Assistant Professor
- Pnevmatikatos Dionisios, Associate Professor
- Stavrakakis Georgios, Professor

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Costas Balas
Rank: Associate Professor
Years in rank: 9.5 yrs
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture Division
Lab affiliation: Electronics Laboratory

A – Teaching

- Undergraduate courses taught
    - **Electronics I**
    - **Optoelectronics**

- Graduate courses taught
    - **Optoelectronics**
    - **Special Topics on Optoelectronic Biomedical Technology**

- Labs taught
    - **Electronics I**
    - **Optoelectronics**

- Curriculum & course development

    - Lecture notes / slides developed
    4 Lectures for the new Biomedical Engineering course
    6 Lectures for the international "BEST" summer school

B – Publications

- Publications in refereed journals
  - Submitted: those published/appeared (see below)
    - A. Zaal, J. A. Louwers, J. Berkhof, M. Kocken, W.A. Harmsel, G.C.M. Graziosi, J. W.M. Spruijt, <u>C. Balas</u>, E. Papagiannakis, P. J. F. Snijders, C.J.L.M. Meijer, F.J. van Kemenade, R. H. M. Verheijen. *Agreement between colposcopic impression and histological diagnosis among HPV16 positive women: a clinical trial using dynamic spectral imaging colposcopy.* Submitted to BJOG
  - Accepted:
    - A. Zaal, J. A. Louwers, J. Berkhof, M. Kocken, W.A. Harmsel, G.C.M. Graziosi, J. W.M. Spruijt, <u>C. Balas</u>, E. Papagiannakis, P. J. F. Snijders, C.J.L.M. Meijer, F.J. van Kemenade, R. H. M. Verheijen. *Agreement between colposcopic impression and histological diagnosis among HPV16 positive women: a clinical trial using dynamic spectral imaging colposcopy.* Accepted for publication in BJOG
  - Published:
    - J. A. Louwers, A. Zaal, M. Kocken, W.A. ter Harmsel, G.C.M. Graziosi, J.W.M. Spruijt, J.Berkhof, <u>C. Balas</u>, E. Papagiannakis, P. J. F. Snijders, C.J.L.M. Meijer, F. J. van Kemenade, R. H. M. Verheijen *"Dynamic Spectral Imaging Colposcopy: Higher sensitivity for detection of premalignant cervical lesions"* BJOG. pp. 309-18 Feb;118(3): 2011

- Publications in refereed conferences
  - Submitted: those published/appeared (see below)
    - G. Papoutsoglou, A. Anastasopoulou, G. Stavrakakis, W.P. Soutter and <u>C. Balas</u>, *"In vivo Dynamic Imaging, in silico Modeling and Global Sensitivity Analysis for the Study and the Diagnosis of Epithelial Neoplasia"* 33rd Annual International Conference of the IEEE EMBS Boston, Massachusetts USA, August 30 - September 3, 2011
  - Accepted:
    - G. Papoutsoglou, A. Anastasopoulou, G. Stavrakakis, W.P. Soutter and <u>C. Balas</u>, *"In vivo Dynamic Imaging, in silico Modeling and Global Sensitivity Analysis for the Study and the Diagnosis of Epithelial Neoplasia"* 33rd Annual International Conference of the IEEE EMBS Boston, Massachusetts USA, August 30 - September 3, 2011
  - Published:
    - V. Margariti, M. Zervakis and <u>C. Balas</u>, *"Wavelet and Physical Parametric Analysis of the Acetowhitening Optical Effect: Comparative Evaluation of Performances in non-invasive Diagnosis of Cervical Neoplasia"* 10th IEEE International Conference on Information

Technology and Applications in Biomedicine Corfu, Greece, 2011
- ▪ G. Papoutsoglou, A. Anastasopoulou, G. Stavrakakis, W.P. Soutter and <u>C. Balas</u>, *"In vivo Dynamic Imaging, in silico Modeling and Global Sensitivity Analysis for the Study and the Diagnosis of Epithelial Neoplasia"* 33rd Annual International Conference of the IEEE EMBS Boston, Massachusetts USA, August 30 - September 3, 2011

- Books and edited book chapters
  - o C. Balas, C. Pappas, G. Epitropou *"Multi/Hyper-Spectral Imaging"* in Handbook of Biomedical Optics text book, Taylor&Francis Books, Inc, USA, 2011

- **Patents**
  - o *GRANTED*
  - **USA Patent C. Balas P91785US00 "Methods for characterizing tissues".**

D – Funded Projects

- Current projects:
  - o "OncoSeed Diagnostics: *Biology of Circulating Tumour Cells, Distant Metastasis & Development of Liquid Biopsy Methods". Funding source: «COOPERATION»-SUB-ACTION II:«Large Scale Cooperative Projects».*
  - o "*In vivo Molecular Imaging of Epithelial Pre-Cancers based on Dynamic Optical Scattering Modeling*" Heraklitos
  - o Imaging system for assessing papillary response to tunable monochromatic light excitation. Funding source: TUC internal program for supporting graduate research.

- Project proposals submitted:
  - **FP7-ICT-2011-C, FET: Reconfigurable Live Spectral Imaging**

E – Professional service
- Reviewing activities
  - o **Journal of Biophotonics, Optical Engineering, Optics express**

F – Service to the Department and the School
- Departmental responsibilities
  - o **5th and 6th semester student advisor committee**

G – Advising
- Active graduate students supervised
  - o Ph.D. and M.Sc. students supervised

- - - Tsapras Athaniasios (PhD)
    - Papoutsoglou George (PhD)
    - Georgiou Nikos (MSc)
    - Epitropou George (MSc)
    - Kavadias Vasilis (MSc)
    - Iliou Dimitris (MSc)
  - PhD. And M.Sc. degrees awarded
    - Georgiou Nikos (MSc)
- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Abatzi Fani
    - Rossos Christos
    - Nikos Tsoulidis
  - Diploma theses completed (supervisor)
    - Stamatiadou Maria
    - Zografos Odysseas
    - Iliou Dimitris

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Matthias Bucher
Rank: Assistant Professor (tenure)
Years in rank: 7+1/2
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Electronics Laboratory

A – Teaching

- Undergraduate courses taught
    - ECE 416 – Design of CMOS Analog Integrated Circuits (Fall 2010)
    - ECE 311 – Electronics II (Spring 2011)

- Graduate courses taught
    - ECE 604 – Special Themes of Analog Integrated Circuit Design (Fall 2010)

- Labs taught
    - ECE 416 – Design of CMOS Analog Integrated Circuits (Fall 2010)
    - ECE 311 – Electronics II (Spring 2011)

B – Publications

- Publications in refereed journals
    - Submitted:
        - K. Papathanasiou, C. G. Theodorou, A. Tsormpatzoglou, D. H. Tassis, C. A. Dimitriadis, **M. Bucher,** G. Ghibaudo, "Symmetrical unified compact model of short-channel double-gate MOSFETs", submitted, *Solid-State Electronics*.

- M.-A. Chalkiadaki, C. Valla, F. Poullet, **M. Bucher**, "Why − and How To − Integrate Verilog-A Compact Models in SPICE Simulators", submitted, *Int. Journal of Circuit Theory and Applications.*

- A. Bazigos, F. Krummenacher, J.-M. Sallese, **M. Bucher,** E. Seebacher, W. Posch, K. Molnar, M. Tang, "RF Compact Modeling of High-Voltage MOSFETs", submitted, *IETE Journal of Research.*

  o Accepted:
  - A. Bazigos, **M. Bucher,** J. Assenmacher, S. Decker, W. Grabinski, Y. Papananos, "An Adjusted Constant-Current Method to Determine Saturated and Linear Mode Threshold Voltage of MOSFETs", <u>accepted,</u> *IEEE Transactions on Electron Devices.* ieeexplore

  o Accepted-Published:
  - A. Bazigos, F. Krummenacher, J.-M. Sallese, **M. Bucher,** E. Seebacher, W. Posch, K. Molnar, M. Tang, "A Physics-Based Analytical Compact Model for the Drift Region of the HV-MOSFET", *IEEE Transactions on Electron Devices,* Vol. 58, N° 6, pp. 1710-1721, June 2011. ieeexplore

- Publications in refereed conferences
  - I. Chlis, **M. Bucher,** "PMOS Drain-Bulk Connected Loads for Subthreshold Source-coupled Logic", *Proc. 18th Int. Conf. on Mixed Design of Integrated Circuits and Systems (MIXDES)*, pp. 107-112, Gliwice, Poland, June 16-18, 2011. ieeexplore

  - M.-A. Chalkiadaki, **M. Bucher,** A. Bazigos, "RF Parameter Extraction in 90 nm CMOS with EKV3 Compact Model", *4th Int. Conf. on Micro- Nanoelectronics, Nanotechnologies and MEMS (Micro&Nano)*, Athens, Greece, Dec. 12-15, 2010.

  - N. Mavredakis, A. Antonopoulos, **M. Bucher,** "Measurement and Modeling of 1/f Noise in 180 nm NMOS and PMOS Devices", *Proc. 5th European Conf. on Circuits and Systems for Communications (ECCSC)*, pp. 86-89, Belgrade, Serbia, Nov. 23-25, 2010. ieeexplore

- Workshop presentations
  - **M. Bucher,** "Comparison of Analog Figures of Merit among Single- and Multi-gate Transistors", *Seminar on Recent Developments in Nanoelectronics,* Micro&Nano Society, Aristotle University of Thessaloniki, Thessaloniki, Greece, June 3, 2011.

D – Funded Projects

- Current projects:
    - COMON, COmpact MOdelling Network, FP7-PEOPLE-2007-3-1-IAPP, Grant Nr. 218255, Marie Curie Industry Academia Partnership & Pathways, http://www.compactmodelling.eu/. Duration: Dec. 2008 – Nov. 2012.
    - OEDDIR, Organic Electronic Device for Determining Ionizing Radiation Using Sensors Based on Polymer Layers Incorporating Photoacid Generator", "Archimedes III" Project, Greek Ministry of Education and Lifelong Learning. Duration: 2011 – 2013.
    - Nanoscale RF CMOS Transceiver Design, "Heraklitos II" Project Nr. 17/050/6, PhD scholarship for A. Antonopoulos. Ministry of Education and Lifelong Learning. Duration: 2010 – 2013.
    - NANOsympraxis, Multigate MOSFET nanotransistors: compact models for current and noise – development of automated design tools for nanoelectronics, "Synergasia" Project Nr. 09ΣΥΝ-42-998, General Secretariat of Research and Technology (GSRT). Duration: 2010 – 2013.
    - ANTI-SiC, Development of new transistors and inverter for photovoltaic systems based on Silicon Carbide, "Synergasia" Project Nr. 09ΣΥΝ-32-1181, General Secretariat of Research and Technology (GSRT). Duration: 2010 – 2013.
    - NexGenMilliWave, Next Generation Millimeter Wave Backhaul Radio, "Corallia" Hellenic Technology Cluster Initiative in Microelectronics, Phase 2. Duration: 2009 – 2012.
    - MEMSENSE, MEMS Based Wireless Sensor Networks, "Corallia" Hellenic Technology Cluster Initiative in Microelectronics, Phase 2. Duration: 2009 – 2012.

- Project proposals submitted:
    - NanoTera, Postdoctoral Research proposal, Ministry of Education and Life-Long Learning, 2010.

- Development of Electronics Laboratory infrastructure:
    - 6 signal generators HAMEG HM8030-6 (10MHz) for educational lab, Cadence IC & System software (Electronics Laboratory budget).
    - Agilent ADS & ICCAP annual software packages ("Synergasia" projects).

E – Professional service

- Conference Technical Programme Committee service

- *TPC member, 18th International Conference on Mixed Design of Integrated Circuits and Systems (MIXDES) 2011.*
- *TPC member, 25th Int. Conference EUROSENSORS 2011.*

- Reviewing activities
    - *IEEE Trans. on Electron Devices*
    - *IEEE Trans. on Computer Aided Design of Integrated Circuits and Systems*
    - *Solid-State Electronics*
    - *Semiconductor Science and Technology*
    - *Journal of Applied Physics*
    - *Microelectronics Engineering*

- Expert for PhD examinations
    - *Technical University Dresden (TUD), Faculty for Electrical Engineering and Informatics, Dresden, Germany, March 2011.*
    - *Universitat Rovira y Virgili (URV), Department of Electronic Engineering, Tarragona, Spain, March 2011.*

F – Service to the Department and the School

- Departmental responsibilities
    - Director, Electronics Laboratory.
    - Member, Examinatory committee for admission of undergraduate students.

G – Advising

- Graduate students supervised

    - Ph.D. students supervised (supervisor):
        - Angelos Antonopoulos, Design of nanoscale RF CMOS transceivers, Enrollment: June 2008. Phone 28210 37269. aanton "at" electronics.tuc.gr
        - Nikos Mavredakis, Noise in high-voltage MOSFETs (HVMOSFETs), Enrollment: July 2010. Phone 28210 37269. nmavredakis "at" isc.tuc.gr
        - Maria-Anna Chalkiadaki, Compact modelling of multiple gate MOS transistors, Enrollment: March 2011.
        - George Rozakis, Non-linearity analysis in CMOS power amplifiers, Enrollment: Oct. 2008.

- o M.Sc. theses completed (supervisor):
    - Nikos Makris, Characterization and RF Design Aspects of Advanced CMOS, July 2011.
    - Maria-Anna Chalkiadaki, Microwave Modelling and Parameter Extraction of MOSFETs, March 2011.

- o M.Sc. students supervised (supervisor):
    - Athanasios Dimakos, Low voltage analog design techniques, Enrollment: Oct. 2009. Phone 28210 37269.
    - Konstantinos Kostopoulos, Modelling of High-Voltage MOSFETs, Enrollment: Oct. 2010. Phone 28210 37269.
    - Konstantinos Papathanasiou, Design and layout techniques in analog/RF integrated circuits, Enrollment: Feb. 2011. Phone 28210 37269.

- Undergraduate students supervised

    - o Diploma theses completed (supervisor):
        - Ilias Chlis, Subthreshold Source-Coupled Logic (SCL) for Ultra-Low Power SRAM, March 2011.
        - George Kargakis, Operation and analysis of zero-VT MOSFETs, Dec. 2010.
        - Andreas Bombos, Investigation of nonlinearity in MOS transistors, Nov. 2010.
        - George Volanis, Design Techniques for Sigma-Delta Analog-to-Digital Converters on System and Circuit Level, Nov. 2010.

    - o Diploma students (supervisor):
        - Vassilis Mylonakis, Design of CMOS variable gain amplifier (VGA).
        - Apostolos Spanos, RF Noise in advanced CMOS.
        - Apostolos Tsivitis, Study of 1/f noise in MOS transistors.
        - George Smaragdos, Design of integrated filters based on current-mode OPAMPs.
        - Yannis Kyriakopoulos, Design of common-gate RF Low-Noise Amplifiers (LNA).
        - George Gyroukis, Compact modeling and circuit design with nano-scale MOSFETs.
        - Dimitris Sideris, Characterization and compact modeling of SiC JFET.
        - Nikos Pappas, TCAD investigation of analog properties of multi-gate CMOS transistors.
        - Tassos Grammatikos, CMOS varactor modeling.
        - Nicolas Gegios, RF CMOS modeling.

- o Diploma theses completed (committee member):
  - Panos Kalodimas.
  - Michail Peronikolis.
  - Odysseas Zographos.

Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: September 1, 2010 to August 31, 2011

Name: Apostolos Dollas
Rank: Professor
Years in rank: 10
Full-time or part-time: Full Time
Division: Electronics and Computer Architecture (HRY)
Lab affiliation: Microprocessor and Hardware Laboratory

A – Teaching
- Undergraduate courses taught
    - HRY 101 - Logic Design (mandatory)
    - HRY 203 - Advanced Logic Design (mandatory)

- Graduate courses taught
    - HRY 631 – Special Topics on Reconfigurable Computing

- Labs taught
    - Supervised the labs of HRY 101
    - Supervised the labs of HRY 203, which I had completely re-written two years earlier on a different platform than the one previously used, introducing mandatory hands-on lab exercises with Xilinx Spartan FPGA's and downloaded complete designs. The laboratory exercises were somewhat changed from the previous year to discourage usage of existing codes.

- Curriculum & course development
    - Lecture notes / slides developed: Revised the HRY 203 (Advanced Logic Design) class notes which were distributed in preliminary form through the web-based e-learning environment *Webcourses*.

B – Publications

- Publications in refereed journals
  - Submitted
    - Raghudeep Kannavara, Sukarno Mertoguno, Apostolos Dollas, Peter Athanas, Nikolaos Bourbakis, "SCAN SP – Secure Processor and its Crypto Capabilities", *IEEE Transactions on Secure and Dependable Computing*.

  - Accepted
    - G. Chrysos, A. Dollas, N. Bourbakis, An embedded software-reconfigurable color segmentation architecture for image processing systems, *Microprocessors and Microsystems*, Elsevier Press.

    - K. Papadimitriou, A. Dollas, S. Hauck, Performance of Partial Reconfiguration in FPGA Systems: A Survey and a Cost Model, *ACM Transactions on Reconfigurable Technology and Systems (TRETS)*.

- Publications in refereed conferences
  - Submitted
    - A. H. Gholamipour, K. Papadimitriou, F. Kurdahi, A. Dollas, A. Eltawil, *Area, Reconfiguration Delay and Reliability Trade-Offs in Designing Reliable Multi-Mode FIR Filters*, IEEE International Design and Test Workshop (IDT), in conjunction with the IEEE International Conference on Electronics, Circuits and Systems (ICECS).

  - Accepted
    - G. Chrysos, P. Dagritzikos, I. Papaefstathiou, A. Dollas, *Novel and Highly Efficient Reconfigurable Implementation of Data Mining Classification Tree*, 2011 International Conference on Field Programmable Logic and Applications (FPL), 5-7 Sept. 2011.

  - Published (all papers fully refereed)
    - M. Smerdis, P. Malakonakis, A. Dollas, *Carlothello: An FPGA Based Monte Carlo Othello Player*, Proceedings of the 2010 International Conference on Field-Programmable Technology (FPT '10) (3rd place in the 2010 Design Competition), Beijing, China, December, 2010.
    - P. Malakonakis, E. Sotiriades, A. Dollas, *GE3: a single chip client-server architecture for Golomb ruler derivation,* The 2010 International Conference on Field-Programmable Technology (FPT'10), Beijing, China, December, 2010.
    - M. Smerdis, P. Dagritzikos, Chrysos, E. Sotiriades, A. Dollas, *Reconfigurable Systems for the Zuker and Predator Algorithms for Secondary Structure Prediction of Genetic Data*, 2010 International Conference on Field Programmable Logic and Applications (FPL), pp.448-451, Aug. 31 2010-Sept. 2 2010.
    - M. Lakka, A. Desarti, G. Chrysos, E. Sotiriades, I. Papaefstathiou, A. Dollas*, Reconfigurable Computing IP Cores for Multiple Sequence Alignment*, Proceedings of the International Conference on

Bioinformatics Models, Methods and Algorithms, Rome, Italy, 26-29 January, p. 216-221, 2011.

- M. Lakka, G. Chrysos, I. Papaefstathiou, A. Dollas, *Architecture, Design, and Experimental Evaluation of a Lightfield Descriptor Depth Buffer Algorithm on Reconfigurable Logic and on a GPU*, Proceedings of the 19th Annual Symposium on Field-Programmable Custom Computing Machines (FCCM), pp.57-64, May 1-3, 2011.

- Books and edited book chapters
  - A. Dollas, The Art of Microelectronic Systems (under preparation), A. K Peters.

C – Awards & Distinctions

- International Competitions

  - Third place in the 2010 International Conference on Field Programmable Technology Design Competition: M. Smerdis, P. Malakonakis, A. Dollas, *Carlothello: An FPGA Based Monte Carlo Othello Player*, (FPT '10), Beijing, China, December, 2010.

- General co-Chairman (w/ Prof. Manfred Glesner from TU Darmstadt) of the 21st International Conference on Field Programmable Logic (FPL), which was held in Greece for the first time in its 21-event history (Chania, Crete).

D – Funded Projects
- Current projects:
  - Principal Investigator for the Project EVAGORAS: "Reconfigurable Logic Based Supercomputer for Biological, Ecological and Medical Data and Algorithms", Interregional Cooperation Program Greece-Cyprus - INTERREG (Total Funding 779.940 Euros, TUC Funding 444.440 Euros), 2011 (2-year project).
  - Project *"ROTA- Design and Development of a Novel System for the Telemanagement of Ships with High-Speed Internet Bidirectional Communications"*, Greek Secretariat of Research and Technology GSRT under program Synergasia, funded at 300,000 Euros (Telecommunication Systems Institute - TSI Budget 66,378 Euros), 2010 (3-year project).
  - Project *"MERIT- Research and Development of an Electronic Prototype System for the Safety of Sea Transportation with Novel Use of RFID Technologies"*, Greek Secretariat of Research and Technology GSRT under program Synergasia, funded at 300,000 Euros (TUC Budget 66,904 Euros), 2010 (3-year project).
  - Principal investigator for the entire Technical University of Crete in the student's practical training program, coordinating the project "Practicum at the Technical University of Crete", funded by the Greek Ministry of Education and Religious Affairs at 697,364 Euros for three years (2009-2012).

- GSRT PENED 2003, Apostolos Dollas, PI, Manolis Antonidakis, Spyros Blionas, Co-PI's, "Methodology and Technology for the Development of Multiprocessor Wireless Communication Systems and Reconfigurable Computing Circuits", Total budget: 151,200Euros, (TUC Budget roughly 1/3 of the total budget plus overhead for the entire project). Project awarded in 2005 (under final review to complete the project).

E – Professional service

- Conference Technical Program Committee service
    - ♦ Program Committee Member 19th IEEE Symposium on Field Programmable Custom Computing Machines (FCCM), Salt Lake City, USA, May 1-3, 2011.
    - ♦ Program Committee Member, IEEE/ACM 20th International Symposium on Field Programmable Logic (FPL), Milan, Italy, Aug 29 – Sept. 2, 2010.
    - ♦ General co-Chairman w/ Prof. Manfred Glesner (TUD) and Program Committee Member, 21st IEEE/ACM International Symposium on Field Programmable Logic (FPL), Chania, Greece, Sept. 5-7, 2011.
    - ♦ Program Committee Member, International Conference on Field Programmable Technology (FPT, IEEE Sponsored), Beijing, China, December 10-12, 2010.
    - ♦ Program Committee Member, International Conference on Field Programmable Technology (FPT, IEEE Sponsored), New Delhi, India, December 10-12, 2011.

- Member of the board of electors for tenure and promotion to the equivalent rank of Associate Professor at the Foundation of Research and Technology, Hellas (FORTH), Sept. 9, 2010.
- Member of the board of electors for an Associate Professor at the Democritian University of Thrace, March 1, 2011.
- Member of the recommendation committee and the election board towards a faculty tenure evaluation at the University of Cyprus, April 14, 2011.
- External reviewer and examiner in a Ph.D. dissertation defense at the Technical University of Delft, Netherlands, July 11, 2011.
- Member of several election committees and recommendation committees and faculty elections at the Dept. of ECE of the Technical University of Crete.

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

- Reviewing activities

- Several international conferences, including all in which I participate in the program committee and journals, plus international conferences such as SAMOS, including (but not limited to) the *ACM Transactions on Reconfigurable Technology (TRETS), The IEEE Transactions on CAD (TCAD), The IEEE Transactions on VLSI Systems (TVLSI)*, etc.

F – Service to the Department and the School

- Departmental responsibilities
  - Faculty Advisor to the 1st semester students
  - Member, Undergraduate Studies Committee
  - 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.
  - Member of faculty recommendation committees in several faculty elections, member of the election board and participation in the election process of several faculty elections.

- Responsibility for Department-wide projects
  - Active participation in the Departmental External Evaluation, under the direction of the Department Chairman, Prof. A. Liavas. The external evaluation was conducted by faculty peers from abroad on May 31, 2011.

- School-level responsibilities
  - TUC Senate – appointed, TUC-wide principal investigator for the student's practical training program, coordinating the 697,363 Euro project "Practicum at the Technical University of Crete" for three years (2009-2012).
  - Active participation in the preparation towards external evaluation of the DASTA TUC-wide project by a committee of international experts (faculty in institutions abroad) on January 9-10, 2012.
  - Member of Several Purchasing Committees, requiring the supervision of informal as well as national and international formal bidding processes (as applicable by Law), evaluation of the results, and recommendations to the TUC Senate. These committees resulted in significant purchases for the University, including the Convey HC-1 FPGA Supercomputer.

G – Advising

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

  - Ph.D. and M.Sc. students supervised (advisor, in progress)
    - Papademetriou, Kyprianos (PhD)
    - Chrysos, Grigorios (PhD)
    - Mavroidis, Ioannis (PhD)

- - Meidanis, Dimitrios (PhD)
    - Efstathiou, Dionissios (MS)
    - Lakka, Matina (MS)
    - Malakonakis, Pavlos (MS)
    - Smerdis, Miltiadis (MS)
    - Ilias, Anargyros (MS)
    - Nikoloudakis, George (MS)

  - PhD. And M.Sc. degrees awarded (committee member)
    - Mavroidis, Iakovos (PhD)
    - Christou, Panagiotis (MS)

  - PhD and M.Sc. Degrees (committee member)
    - Mavroidis, Ioannis (PhD)
    - Mavroidis, Iakovos (PhD)
    - Kornaros, George (PhD)
    - Nikitakis, Antonios (PhD)
    - Meidanis, Dimitrios (PhD)
    - Dagritzikos, Panagiotis (MS)
    - Kartsonakis, Ioannis (MS)
    - Agadakos, Ioannis (MS)

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Apostolakis, Stavros
    - Kouinis, Konstantinos
    - Koukousoulas, Pantelis
    - Noulas, Georgios
    - Rousopoulos, Christos
    - Thomas, Sotirios
    - Vastarouchas, Georgios

  - Diploma theses in progress (committee member)
    - (Several, in progress)

  - Diploma theses completed (committee member)
    - Chlis, Ilias
    - Kalederi, Maria
    - Makris, Ioannis
    - Mountakis, Kyriakos Simon
    - Papaioannou, Savvas
    - Pappas, Konstantinos
    - Papantonakis Panagiotis
    - Petsa, Aekaterini
    - Raptis, Grigorios

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: *Kostas Kalaitzakis*
Rank: *Professor*
Years in rank: *8*
Full-time or part-time: *Full-time*
Division: *Electronics & Computer Architecture*
Lab affiliation: *Electric Circuits & Renewable Energy Sources Lab.*

A – Teaching

- Undergraduate courses taught
  - **HRY402 - Electric Measurements and Sensors (8th semester)**
  - **HRY212 – Electric Circuits Analysis (3rd semester)**

- Graduate courses taught
  - **HRY602 – Special topics on Electric Measurement Systems**

- Labs taught
  - **HRY402 - Electric Measurements and Sensors (8th semester)**
  - **HRY212 – Electric Circuits Analysis (3rd semester)**

- Curriculum & course development
  - New courses / labs developed
    - HRY402 - Electric Measurements and Sensors (8th semester). Revised thoroughly. All exercises redesigned.

B – Publications

- Publications in refereed journals

- o Accepted:
  - Kolokotsa D., Rovas D., Kosmatopoulos E., Kalaitzakis K., "A roadmap towards intelligent net zero- and positive-energy buildings", accepted in Solar Energy.

- Publications in refereed conferences

  - o Accepted:
    - Sergaki A., Kalaitzakis K., "A Decision Support System for Smart Grid Energy Management", 4[th]Int. Scientific Conf. on Energy and Climate Change, 13 - 14 October 2011, Athens, Greece.
    - Sergaki A., Kalaitzakis K., "A knowledge management platform for supporting Smart Grids based on peer to peer and service oriented architecture technologies", IEEE Int. Conf. on Smart Measurements of Future Grids, Bologna, Italy, Nov. 14-16, 2011.

  - o Published:
    - Sergaki E. S., Essounbouli N., Kalaitzakis K., Stavrakakis G. S., "Fuzzy Logic Control for Motor Flux Reduction during Steady states and for Flux Recovery in Transient states of Indirect FOC AC Drives", Proc. Int. Conf. on Electrical Machines of the IEEE Industrial Electronics Society, ICEM10, 6-8 Sep. 2010, Rome, Italy.
    - Loukarakis E., Kalaitzakis K., Koutroulis E., Stavrakakis G., "Investment Perspectives on the Interconnection of Isolated Systems with the Mainland Grid: Crete Case Study", Power and Energy Systems Conf. (EuroPES 2011), June 22 – 24, 2011, Crete, Greece.

D – Funded Projects

- Current projects:
  - o Researcher in a project entitled "Positive-Energy Building thru Better Control Decisions (PEBBLE)", project number 248537, project coordinator Technical University of Crete, funded by EEin the framework FP7-ICT-2009.6.3: ICT FOR ENERGY EFFICIENCY, 2010-2012, total budget 2.4 M€, 500 k€ for the TUC.
  - o PI in a project entitled "Analytical Mathematical Model of an Innovative Solar Thermal System for Electric Energy Production", funded by the Research Committee of the Technical University of Crete, total budget 15 k€.
  - o Researcher in a project entitled "Detailed environmental impact assessment for the preparation of the Environmental Impact Study for installation of a solar thermal power plant of 50 MW in Akrotiri, Chania", contract between Enolia Co. and Technical Univ. of Crete, total budget 118 k€.

- o Researcher in a project entitled "Siting study for the sustainablee stablishment of windfarms in the region of Crete", contract between Region of Crete and Technical Univ. of Crete, total budget 26 k€.
- o Researcher in a project entitled "GREEN@Hospital: Web-based energy management systemfor the optimization of the energy consumption in hospitals", funded by the E.U., total budget 1.5 M€, budget for TUC 168 k€.

F – Service to the Department and the School

- Departmental responsibilities
  - o Organization, design and purchase of equipment for the Electric Energy Laboratory

G – Advising

- Active graduate students supervised
  - o Ph.D. and M.Sc. students supervised
    - V. Bakirtzoglou, year of initial enrollment in M.Sc. program: 2009.
    - A. Vasilomichelaki, year of initial enrollment in M.Sc. program: 2010.
    - G. Perrakis, year of initial enrollment in M.Sc. program: 2010.

  - o PhD. And M.Sc. degrees awarded
    - K. Papadakis (M.Sc.), year of initial enrollment in M.Sc. program 2004.

- Undergraduate students supervised
  - o Diploma theses in progress (supervisor)
    - A. Sfondouri
    - T. Mantzioros
    - K. Kagarakis
    - G. Manouras
    - P. Kalodimas
    - H. Papastavrou
    - J. Zoufios
    - J. Kalogiannakis
    - A. Baryaba
    - A. Pafilis
    - T. Vasiloudis
    - J. Sideratos
    - K. Bonis
    - N. Apsouris
    - G. Spyridakis
    - T. Mallisovas

- K. Sfakianakis
- A. Baryaba
- G. Palolli
- K. Tsogas
- G. Dalaperas
- P. Matzoros

- Diploma theses completed (supervisor)
  - A. Sfondouri
  - T. Mantzioros
  - K. Kagarakis
  - G. Manouras
  - P. Kalodimas
  - H. Papastavrou
  - J. Zoufios
  - J. Kalogiannakis

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: *Eftichios Koutroulis*
Rank: Assistant Professor (awaiting official appointment)
Years in rank: -
Full-time or part-time: Part-time
Division: Electronics & Computer Architecture
Lab affiliation: Electric Circuits & Renewable Energy Sources Laboratory

A – Teaching

- Undergraduate courses taught

    - *ACE 511 - VLSI and ASIC System Design (Fall semester 2010)*
    - *ACE 102 - Basic Circuit Theory (Spring semester 2011)*

- Labs taught

    - *ACE 511 - VLSI and ASIC System Design (Fall semester 2010)*
    - *ACE 102 - Basic Circuit Theory (Spring semester 2011)*

- Curriculum & course development

    - New courses / labs developed

        - *ACE 102 - Basic Circuit Theory (Spring semester 2011)*

    - Lecture notes / slides developed

        - *ACE 511 -VLSI and ASIC System Design (Fall semester 2010): updated the existing slides (440 slides)*
        - *ACE 102 - Basic Circuit Theory (Spring semester 2011): developed 442 new slides*

B – Publications

- Publications in refereed journals
  - Submitted:
    - **E. Koutroulis**, F. Blaabjerg, "A New Technique for Tracking the Global Maximum Power Point of PV Arrays Operating under Partial Shading Conditions", submitted for review at *IEEE Journal of Photovoltaics*.

- Publications in refereed conferences
  - Accepted:
    - **E. Koutroulis**, F. Blaabjerg, "Design Optimization of Transformerless Grid-Connected PV Inverters Including Reliability", accepted for presentation at the *27th Annual IEEE Applied Power Electronics Conference & Exposition (APEC 2012)*.

  - Published:
    - **E. Koutroulis**, F. Blaabjerg, "Design Optimization of Grid-Connected PV Inverters", *26th Annual IEEE Applied Power Electronics Conference & Exposition (APEC 2011)*, pp. 691-698, 2011.
    - T. Kerekes, **E. Koutroulis**, S. Eyigün, R. Teodorescu, M. Katsanevakis, D. Sera, "A Practical Optimization Method for Designing Large PV Plants", *2011 IEEE International Symposium on Industrial Electronics (ISIE 2011)*, pp. 2051-2056, 2011.
    - **E. Koutroulis**, F. Blaabjerg, "Techniques for the Optimal Design of Photovoltaic Inverters Interconnected with the Electric Grid", *14th European Conference on Power Electronics and Applications (EPE 2011)*, pp. 1-10, 2011.
    - M. Lakka, **E. Koutroulis**, A. Dollas, "Design of a High Switching Frequency FPGA-based SPWM Generator for DC/AC Inverters", *21st International Conference on Field Programmable Logic and Applications (FPL 2011)*, pp. 15-19, 2011.
    - G. Papadakis, K. Mania, **E. Koutroulis**, "A System to Measure, Control and Minimize End-to-End Head Tracking Latency in Immersive Simulations", *10th International Conference on Virtual Reality Continuum and its Applications in Industry (ACM SIGGRAPH VRCAI 2011)*, pp. 1-4, 2011.
    - G. Papadakis, K. Mania, M. Coxon, **E. Koutroulis**, "The Effect of Tracking Delay on Awareness States in Immersive Virtual Environments: an Initial Exploration", *10th International Conference on Virtual Reality Continuum and its Applications in Industry (ACM*

SIGGRAPH VRCAI 2011) - Workshop on Human Centred AR VR and GAMING, pp. 1-8, 2011.

- E. Loukarakis, K. Kalaitzakis, **E. Koutroulis**, G. Stavrakakis, "Investment Perspectives on the Interconnection of Isolated Systems with the Mainland Grid: Crete Case Study", *10th IASTED European Congress on Power and Energy Systems (EuroPES 2011)*, pp. 1-5, 2011.

D – Funded Projects

- Project proposals submitted:

  o *THALIS call (English version)*
  o *European Space Agency – Greek industry incentive scheme call*
  o *SYNERGASIA call*

E – Professional service

- Associate Editor duties:

  o *Member of the Editorial Board of the "Renewable Energy" journal (April 2011-present).*

- Conference Organization (specify role)

  o *Local Arrangements Chair for the 2011 International Conference on Field Programmable Logic and Applications (FPL 2011).*

- Reviewing activities

  Reviewed 29 journal papers and 21 conference digests and full papers:

  o *IEEE Journal of Photovoltaics*
  o *IEEE Transactions on Industrial Electronics*
  o *IEEE Transactions on Instrumentation & Measurement*
  o *IEEE Transactions on Circuits and Systems II*
  o *IET Power Electronics*
  o *IET Renewable Power Generation*
  o *Electronics Letters*
  o *Renewable Energy*
  o *Energy*
  o *Measurement*
  o *International Journal of Electrical Power & Energy Systems*
  o *Advances in Engineering Software*

- o *27th Annual IEEE Applied Power Electronics Conference & Exposition (APEC 2011)*
- o *37th Annual Conference of the IEEE Industrial Electronics Society (IECON 2011)*
- o *2011 IEEE International Symposium on Industrial Electronics (ISIE 2011),*
- o *2011 International Conference on Power Engineering, Energy and Electrical Drives (POWERENG 2011).*

G – Advising

- Active graduate students supervised
  - o Ph.D. and M.Sc. students supervised
    - *Matina Lakka, matinalakka@gmail.com (MSc Student, 2nd year in program)*
    - *Stefanos Saridakis, stef_saridakis@yahoo.gr (MSc Student, 1st year in program)*

- Undergraduate students supervised
  - o Diploma theses in progress (supervisor)
    - *Christos Koukouzas*
    - *Nikos Petridis*
    - *George Kimionis*
    - *Nikos Vatsithianos*
    - *Chris Constantopoulos*
    - *Nikos Achilladelis*
    - *Theodore Sotiris*
    - *Nikos Fanioudakis*
    - *Dimitris Zografos*
    - *Alex Paraskeuas*
    - *Charalambos Paravalos (co-supervised with Assistant Professor V. Samoladas*
    - *Lefteris Kyrousis*

  - o Diploma theses completed (supervisor)
    - *Ioannis Kalogiannakis*

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Ioannis Papaefstathiou
Rank: Assistant Professor
Years in rank: 4
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Microprocessor and Hardware laboratory

A – Teaching

- Undergraduate courses taught
  - HRY 401 – Embedded Systems Design (Fall 2010)
  - HPY 412 – Computer Organization (Spring 2011)

- Graduate courses taught
  - HRY 501 – Design of Special Purpose Architecture (Spring 2011)

- Labs taught
  - HRY 401 – Embedded Systems Design (Fall 2010)
  - HPY 412 – Computer Organization (Spring 2011)

- Curriculum & course development
  - New courses / labs developed : HRY 501 – Design of Special Purpose Architectures (based on new book and new material)

B – Publications

- Publications in refereed journals

  - Published

- ▪ Theodore Zahariadis, Helen Leligou, Panagiotis Karkazis, Panagiotis Trakadas, Ioannis Papaefstathiou, Charalambos Vangelatos, Lionel Besson, "*Design and implementation of a trust-aware routing protocol for large WSNs*", Int. Journal of Network Security & Its Applications, October 2010, Volume 2. Number 4

- • Publications in refereed conferences
  - o Submitted: those published/appeared (see below), plus
    - ▪ A. Brokalakis, I. Papaefstathiou, "*Using Hardware-based Forward Error Correction to reduce the overall energy consumption of WSNs*", submitted to IEEE WCNC 2012, Paris, France
    - ▪ G.G. Mplemenos, I. Papaefstathiou, "*'Fast and Power-Efficient Hardware Implementation of a Routing scheme for WSNs*", Submitted to IEEE WCNC 2012, Paris, France.

  - o Accepted: same as published (see below) plus
    - ▪ G. Chatziparaskevas, A. Brokalakis, I. Papaefstathiou, "*An FPGA-based Parallel Processor for Black-Scholes Option Pricing Using Finite Differences Schemes*", IEEE Design, Automation and Test Europe Conference 2012 (DATE 2012), March 8-12, Dresden, Germany (Acceptance rate 22%).
    - ▪ D. Meidanis, K. Georgopoulos, I. Papaefstathiou, "*FPGA Power Consumption Measurements and Estimations Under Different Implementation Parameters*", IEEE International Conference on Field Programmable Technology 2011 (FPT'11), December 7th - 10th New Delhi, India.

  - o Published
    - ▪ G. Mplemenos, K. Papadopoulos, A. Brokalakis, I. Papaefstathiou, "*RESENSE: An Innovative, Reconfigurable, Powerful and Energy Efficient WSN Node*", IEEE International Conference on Communications 2011 (ICC-2011) June 5-9, Kyoto, Japan (Acceptance rate 36%)
    - ▪ M. Lakka, G. Chrysos, I. Papaefstathiou, A. Dollas, "*Architecture, Design, and Experimental Evaluation of a Lightfield Descriptor Depth Buffer Algorithm on Reconfigurable Logic*", 19th Annual International IEEE Symposium on Field-Programmable Custom Computing Machines (FCCM 2011), May 1-3, Salt Lake City, Utah, U.S.A. (Acceptance rate for long papers 16%)
    - ▪ N Chrysanthou, G Chrysos, E Sotiriades, I Papaefstathiou, "*Parallel Accelerators For GlimmerHMM Bioinformatics Algorithm*", IEEE Design, Automation and Test Europe Conference 2011 (DATE 2011), 14-18 March 2011, Grenoble, France (Acceptance rate 24%).
    - ▪ G. Mplemenos, K. Papadopoulos, I. Papaefstathiou *"Using Reconfigurable Hardware Devices in WSNs for Reducing the*

Energy Consumption of Routing and Security Tasks", IEEE GLOBECOM 2010, December 6-10, Maimi, USA (Acceptance rate 31%).

C – Awards & Distinctions

o Invited Speaker, ECOSENSE 2011

D – Funded Projects

- Current projects:

  o European Research Grant Capacities Programme (Research for the benefit of SMEs), Title: *Open Source FPGA Accelerator & Hardware-Software Codesign Toolset for CUDA Kernels (FASTCUDA)* November 2011.
  o ARTEMIS EU projects, Title: *WSN Development, Planning and Commissioning & Maintenance ToolSet (WSN-DPCM),* October 2011.
  o ARTEMIS EU projects, Title: *new embedded Systems arcHItecturE for multi-Layer Dependable solutions* (*nShield),* September 2011.

E – Professional service

- Conference Technical Program Committee service
  o IEEE FPL 2011
  o IEEE ICEAC 2011
  o IEEE PARMA 2011
  o IEEE ICNC-11
  o UCHPC 2011
  o Several other smaller workshops

- Conference Organization
  o FPL2011 Financial Chair

- Reviewing activities
  o Regular reviewer for *Elsevier Microprocessors and Microsystems Journal,*
  o Regular reviewer for *IEEE Transactions on Circuits and Systems for Video Technology*
  o Regular reviewer for *ACM Transactions on Reconfigurable Technology and Systems*
  o Regular reviewer for *IEEE Transactions on Parallel and Distributed Systems*

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Antonis Nikitakis (Ph.D.), Year of initial enrollment in program: 2008
    - Panagiotis Karkazis, (M.Sc.), Year of initial enrollment in program: 2010.
    - Panagiotis Dagritzikos, (M.Sc.), Year of initial enrollment in program: 2009.
    - Ioannis Agadakos, (M. Sc.), Year of initial enrollment in program: 2010.
    - Ioannis Kartsonakis (M.Sc.), Year of initial enrollment in program: 2010.

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)

    - N. Pogkas
    - D. Daskalakis
    - D. Tsiamasiotis
    - A. Katsoulas
    - P. Papantonakis
    - M. Papadovasilakis

  - Diploma theses completed (supervisor)

    - S. Papaioannou
    - G. Raptis
    - M. Kalenteri

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Dionisios Pnevmatikatos
Rank: Professor
Years in rank: 2
Full-time or part-time: Full time
Division: Electronics and Computer Architecture
Lab affiliation: Microprocessor and Hardware laboratory

A – Teaching

- Undergraduate courses taught
    - HRY 201 – Digital Computers (Fall 2010)
    - HRY 419 – Computer Architecture (Spring 2011)

- Graduate courses taught
    - HRY 613 – Parallel and Distributed Computer Architecture (Spring 2011)

- Labs taught
    - HRY 201 – Digital Computers (Fall 2010)
    - HRY 411 – Computer Architecture (Spring 2011)

- Curriculum & course development

    Lecture notes / slides developed for:
    - Digital Computers (Update)
    - Computer Architecture (Update)

B – Publications

- Publications in refereed journals

- Accepted:
  - G. Passas, M. Katevenis, D. Pnevmatikatos: Crossbar NoC's are scalable beyond 100 nodes, accepted in the IEEE Transactions on Computer Aided Design of Integrated Circuits and Systems (TCAD)
- Published:
  - Manolis Katevenis, Vassilis Papaefstathiou, Stamatis G. Kavadias, Dionisios N. Pnevmatikatos, Federico Silla, Dimitrios S. Nikolopoulos: Explicit Communication and Synchronization in SARC. IEEE Micro 30(5): 30-41 (2010)

- Publications in refereed conferences

  - Published:
    - George Kornaros, Dionisios N. Pnevmatikatos: Hardware-assisted dynamic power and thermal management in multi-core SoCs. ACM Great Lakes Symposium on VLSI 2011: 115-120
    - Giorgos Passas, Manolis Katevenis, Dionisios N. Pnevmatikatos: VLSI micro-architectures for high-radix crossbar schedulers. NOCS 2011: 217-224

D – Funded Projects

- Current projects:
  - Departmental Practical Training

- Project proposals submitted:
  - Departmental Practical Training proposal
  - Synergasia MERIT
  - FP7 FASTER
  - FP7 DESYRE

E – Professional service

- Conference Technical Program Committee service
  - International Conference on Field Programmable Logic and Applications (FPL) 2010
  - International Conference on Embedded Computer Systems: Architectures, Modeling, and Simulation (IC-SAMOS) 2010
  - International conference on Rapid System Prototyping (RSP) 2010
  - IEEE International Conference On Computer Design (ICCD), 2010
  - International Conference on Parallel Processing (ICPP), 2010
  - VLSI-SoC

- o Design and Test Europe (DATE), Architecture and Microarchitecture Track, 2010
- o Annual IEEE/ACM International Symposium on Microarchitecture (MICRO), 2011

- Conference Organization
  - o Co-Chair FPL 2011

- Reviewing activities
  - o Journal Reviewer:
    - Computer Architecture Letters
    - IEEE TVLSI
    - IEEE TC
    - TPDS
    - JSA
  - o Conference Reviewer:
    - IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-Soc) 2009
    - Canadian Conference on Electrical and Computer Engineering
  - o Workshop Technical Committee Member:
    - HIPEAC-RC (Reconfigurable Computing) 2010
    - HIPEAC- Interconnection Network Architectures: On-Chip, Multi-Chip (INA-OCMC) 2010
    - ParaFPGA

F – Service to the Department and the School

- Departmental responsibilities
  - o Director, Microprocessor and Hardware (MHL) Laboratory
  - o Undergraduate Program Committee Member
  - o Graduate Program Committee Member
  - o Responsible for the Department-wide practical training project
- School-level responsibilities
  - o University Disciplinary committee
  - o University Graduate committee

G – Advising

- Active graduate students supervised
  - o Ph.D. and M.Sc. students supervised
    - George Kornaros Ph.D.
    - Ioannis Mavroidis Ph.D.

- - S. Koidis M.Sc.
    - Ch. Vatsolakis M.Sc.

  - PhD. And M.Sc. degrees awarded
  - Diploma theses completed (committee member)
    - Efstathiou Dionisis
    - Christou Panagiotis

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Petropoulos Panagioths
  - Diploma theses completed (supervisor)
    - Makris Ioannis
    - Pappas Konstantinos
    - Petsa Aikaterinh

  - Diploma theses completed (committee member)
    - Kalederi Maria
    - Mountakis Kiriakos-Simos
    - Raptis Grigorios

Annual Activity Report

For the period : 1-9-2010 to 31-8-2011

Name: George Stavrakakis
Rank: Professor
Years in rank: 16
Full-time or part-time: Full-time
Division: Electronic and Computer Architecture
Lab affiliation: Electric Circuits and Renewable Energy Sources
(www.elci.tuc.gr)

A – Teaching

- Undergraduate courses taught
  - Basic Circuit Theory (HRY 202)
  - Renewable Energy Sources (HRY 416)

- Graduate courses taught
  - Advanced topics in Optimal Control (SYS 603)

- Labs taught
  - Basic Circuit Theory (HRY 202)
  - Renewable Energy Sources (HRY 416)

- Curriculum & course development
  - New courses / labs developed : Renewable Energy Sources (HRY 416)
  - Revision of courses: Basic Circuit Theory (HRY 202)
  - Lecture notes / slides developed : Renewable Energy Sources (HRY 416)

B – Publications

- **Publications in refereed journals**

- o Submitted : 4
- o Accepted   : 2
- o Published : 2 (see below)

  - Diakaki, C., E. Grigoroudis, N. Kabelis, D. Kolokotsa, K. Kalaitzakis and **G. Stavrakakis,** A multi-objective decision model for the improvement of energy efficiency in buildings, Energy 35 (2010) 5483-5496.
  - T. Nikolaou, D. Kolokotsa and **G. Stavrakakis,** "Review on methodologies for energy benchmarking, rating and classification of buildings", Journal of Advances in Building Energy Research, Vol.5, pp.1-18, 2011.

- **Publications in refereed conferences**
  - o Submitted : 8
  - o Accepted : 8
  - o Published : 8 (see below)

    - E. S. Sergaki, N. Essounbouli, K. C. Kalaitzakis, **G. Stavrakakis**, "Fuzzy Logic Control for Motor Flux Reduction during Steady state and for Flux Recovery in transient states of indirect FOC AC Drives", IEEE ICEM 2010 XIX International Conference on Electrical Machines, Sept. 6-8, 2010, Rome, Italy.

    - G. Papadimitriou, T. Nikolaou, D. Kolokotsa, P. Skittides, **G. Stavrakakis**, T. Tsoutsos, "The benchmarking of Greek office buildings using clustering techniques", Proc of the joint 3rd Palenc, 5th EPIC and 1st Cool Roofs Conference, 29/9/2010- 2/10/2010 Rodos Island, Greece.

    - R. Mamlook, **G. Stavrakakis**, O. Badran, F. Josephides, "A Fuzzy Set Methodology to Compare Between Different Autonomous PV-RO Desalination Plants: A Case Study Scenario", Seventh Jordanian International Mechanical Engineering Conference -2010 (JIMEC'7), September 27–29, 2010, Amman, Jordan.

    - G. Viskadouros, **G. Stavrakakis** and E. Ellinakis, "Quality Event Recognition and Classification Using a Wavelet-Based Neural Network", International Conference on Energy, Water & Environment (ICEWE), Amman, Jordan, in December 12-15, 2010.

    - E. Loukarakis, **G. Stavrakakis**, "Investigation of Spinning Reserve Impact on Isolated Systems DC Interconnection Feasibility", IEEE International Conference on Environment and Electrical Engineering (2011-EEEIC), Rome, 8-11 May, 2011.

    - E. Loukarakis, E. Kalaitzakis, E. Koutroulis, **G. Stavrakakis**, "Investment Perspectives on the Interconnection of Isolated Systems with the Mainland Grid: Crete Case Study", IASTED- Power and Energy

Systems Interenational Conference, EuroPES 2011, Crete, Greece, June 22 – 24, 2011.

- ▪ E. Markoulakis, E. Antonidakis and **G. Stavrakakis**, "A SIMULINK Circuit Model for measurement of consumption of electric energy using frequency method", IASTED- Power and Energy Systems International Conference - EuroPES 2011, Crete, Greece, June 22 – 24, 2011.

- ▪ G. Papoutsoglou, A. Anastasopoulou, **G. Stavrakakis**, P. Soutter and C. Balas, "In vivo Dynamic Imaging, in silico Modeling and Global Sensitivity Analysis for the Study and the Diagnosis of Epithelial Neoplasia", 33rd Annual International Conference of the IEEE EMBS,Boston, Massachusetts USA, August 30 - September 3, 2011.

- Patents : one in the national level (see bellow)

Έξυπνη μέθοδος και ολοκληρωμένη ηλεκτρονική διάταξη διαχείρισης πληροφοριών σε συστήματα εξασφάλισης εσωτερικής άνεσης με ταυτόχρονη ενεργειακή διαχείριση κτιρίων. (ΟΒΙ2004010045)

D – Funded Projects

Current projects:

- o BALKWASTE: Waste network for sustainable solid waste management planning and promotion of integrated decision tools in the Balkan region", LIFE +, January 1 2009- December 31 2011. Project site : www.balkwaste.eu

- o LIFE FOREST CITIES: Local Authorities' Alliance for Forest Fire Prevention, LIFE+, 1st January 1 2010 – December 31 2012. Project site: www.forestcities.gr

- o CREAM: Innovative technological platform for compact and reliable electronic integrated in   actuators and motors, EC FP-7, September 1 2010 – August 31 2011. Sub-contractor of the Partner Technological Educational Institute of Piraeus.

- Project proposals submitted: 2

E – Professional service

- Society Technical Committee duties: one (International Committee of Electrical Machines- ICEM).

- Reviewing activities: in four international Journals
  - o Permanent invited Reviewer of "Zentralblatt fur Mathematik und ihre Grenzgebiete" (Mathematics Abstracts) edited by Springer-Verlag International publ.

- Permanent invited Reviewer of the Journal of Intelligent and Robotic Systems.

- Permanent invited Reviewer of the IEEE Transactions on Energy Conversion.

- Permanent invited Reviewer of the Electric Power Systems Research

- Participation in National Committees: Permanent Committee of the Prefecture of Crete for the Energy Planning of Crete

F – Service to the Department and the School

- School-level responsibilities
  - Other : member of the Technical Council of TUC

G – Advising

- Active graduate students supervised
  - Committee Member of PhD thesis already defended : 2
    1. Euripides Sotiriades
    2. Anastasios Kouvelas (Production and Management Engineering Dept.)

  - PhD students supervised: 1
    1. Tripolitakis Evagelos, vaggelis@electronics.tuc.gr

  - M.Sc Students supervised: 7
    1. Viskadouros Georgios
    2. Markoulakis Emmanouil
    3. Loukarakis Emmanouil
    4. Sytzanaki Athina
    5. Gobakis Konstantinos
    6. Panagiwtidou Natalia
    7. Limneos Georgios

  - M.Sc. degrees awarded: 2
    1. Viskadouros Georgios g.viskadouros@yahoo.gr
    2. Markoulakis Emmanouil markoul@otenet.gr

  - Committee Member of M.Sc. degrees awarded except the above: 1
    1. Margariti Vanessa vanes_mar_dk@hotmail.com

- Undergraduate students supervised

- o Diploma theses in progress (supervisor): 14
- o Diploma theses completed (supervisor): 8
- o Diploma theses in progress (committee member): 12
- o Diploma theses completed (committee member): 9

Telecommunications Division

Faculty members

- Bletsas Aggelos, Assistant Professor
- Digalakis Vassilios, Professor
- Zervakis Michail, Professor
- Karystinos George, Assistant Professor
- Koutsakis Polychronis, Assistant Professor
- Liavas Athanasios, Professor
- Paterakis Michail, Professor
- Potamianos Alexandros, Associate Professor
- Sidiropoulos Nikolaos, Professor

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Aggelos Bletsas
Rank: Assistant Professor
Years in rank: 2
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught.
TEL 303 Telecommunication Systems II (6th semester).
TEL 412 Analysis & Design (Synthesis) of Telecom Modules (7th semester).
TEL 418 Computer Networks II (8th semester).

- Graduate courses taught
TEL 613 Analysis & Design (Synthesis) of Telecom Modules
(meets with TEL 412)

- Labs taught
TEL 412 Analysis & Design (Synthesis) of Telecom Modules.

- Curriculum & course development
  - New courses / labs developed
  New Laboratory exercise on Rooftop Networking for TEL 418.

  - Lecture notes / slides developed
  Course Notes for 24 Lectures were developed for TEL303.
  Course Notes for 2 Lab tutorials for TEL412.

B – Publications

- Publications in refereed **journals**

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

  A. Bletsas, A. Lippman and J.N. Sahalos, "Zero-Feedback, Collaborative Beamforming for Emergency Radio: Asymptotic Analysis", Mobile Networks and Applications (MONET), **selected among 5 best papers** of IEEE ISWCS 2009, revised version.

  A.G. Dimitriou, **A. Bletsas** and J.N. Sahalos, "Improvements of UHF RFID Coverage with Commodity Hardware, IEEE Antennas and Propagation Magazine (AP).

  A.G. Dimitriou, **A. Bletsas**, A.C. Polycarpou and J.N. Sahalos, "Theoretical Findings and Measurements on Planning an Operational UHF RFID System inside a Room", invited paper, Radioengineering.

  A. Bletsas, J. Kimionis, A.G. Dimitriou and G.N. Karystinos, "Single-Antenna, Coherent Detection of Collided FM0 RFID Signals", IEEE Transactions on Communications (TCOM).

  A. Bletsas, A. Vlachaki, E. Kampianakis, J. Kimionis, G. Sklivanitis, K. Tountas, M. Asteris and P. Markopoulos, "Building the Low-Cost Digital Garden as a Telecom Lab Exercise", IEEE Pervasive Computing.

  - o **Accepted**:

  A. Bletsas, A. Lippman and J.N. Sahalos, "Zero-Feedback, Collaborative Beamforming for Emergency Radio: Asymptotic Analysis", Mobile Networks and Applications (MONET), **selected among 5 best papers** of IEEE ISWCS 2009.

  A.G. Dimitriou, **A. Bletsas** and J.N. Sahalos, "Improvements of UHF RFID Coverage with Commodity Hardware, IEEE Antennas and Propagation Magazine (AP).

  A.G. Dimitriou, **A. Bletsas**, A.C. Polycarpou and J.N. Sahalos, "Theoretical Findings and Measurements on Planning an Operational UHF RFID System inside a Room", invited paper, Radioengineering.

  A. Bletsas, J. Kimionis, A.G. Dimitriou and G.N. Karystinos, "Single-Antenna, Coherent Detection of Collided FM0 RFID Signals", IEEE Transactions on Communications (TCOM).

  A. Bletsas, A. Vlachaki, E. Kampianakis, J. Kimionis, G. Sklivanitis, K. Tountas, M. Asteris and P. Markopoulos, "Building the Low-Cost Digital Garden as a Telecom Lab Exercise", IEEE Pervasive Computing.

- o **Published**:

A. Bletsas, A. Lippman and J.N. Sahalos, "Simple, Zero-Feedback, Distributed Beamforming with Unsynchronized Carriers", IEEE Journal on Selected Areas in Communications (JSAC), Special Issue on Simple Sensor Networking Solutions, Vol. 28, No. 7, pp. 1046-1054, September 2010.

A.G. Dimitriou, A. Bletsas and J.N. Sahalos, "Improvements of UHF RFID Coverage with Commodity Hardware, IEEE Antennas and Propagation Magazine (AP), Vol. 53, No. 1, February 2011.

A.G. Dimitriou, A. Bletsas, A.C. Polycarpou and J.N. Sahalos, "Theoretical Findings and Measurements on Planning an Operational UHF RFID System inside a Room", **invited paper**, Radioengineering, Vol. 20, No. 2, June 2011.

- Publications in refereed **conferences**

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

A.C. Polycarpou, G.K. Gregoriou, L. Papaloizou, P. Polycarpou, A.G. Dimitriou, A. Bletsas and J.N. Sahalos, "A Healthcare Application Based on Passive UHF RFID Technology", **invited paper**, 5th IEEE European Conference on Antennas and Propagation (EUCAP), April 2011, April 2011, Rome, Italy.

A. G. Dimitriou, A. Bletsas and J. N. Sahalos, "On the Design of Passive RFID Tags for ASK Modulation," 5th IEEE European Conference on Antennas & Propagation (EuCAP), April 2011, Rome, Italy.

A. Bletsas, A. Vlachaki, E. Kampianakis, G. Sklivanitis, J. Kimionis, K. Tountas, M. Asteris and P. Markopoulos, "Towards Precision Agriculture: Building a Soil Wetness Multi-Hop WSN from First Principles", **invited paper**, Second International Workshop on Sensing Technologies in Agriculture, Forestry and Environment (EcoSense), Apri 2011, Belgrade, Serbia.

G. Sklivanitis and A. Bletsas, "Testing Zero-Feedback Distributed Beamforming with a Low-Cost SDR Testbed", **invited paper**, 45th Asilomar Conference on Signals, Systems and Computers (Asilomar), November 2011, Pacific Grove, California.

J. Kimionis, A. Bletsas, A.G. Dimitriou, G.N. Karystinos, "Inventory Time Reduction in Gen2 with Single-Antenna Separation of FM0 RFID Signals", IEEE RFID Theory and Applications Conference (RFID-TA), September 2011, Sitges Barcelona, Spain.

  - o **Accepted**:

A.C. Polycarpou, G.K. Gregoriou, L. Papaloizou, P. Polycarpou, A.G. Dimitriou, A. Bletsas and J.N. Sahalos, "A Healthcare Application Based on Passive UHF RFID Technology", **invited paper**, 5th IEEE European Conference on Antennas and Propagation (EUCAP), April 2011, April 2011, Rome, Italy.

A. G. Dimitriou, **A. Bletsas** and J. N. Sahalos, "On the Design of Passive RFID Tags for ASK Modulation," 5th IEEE European Conference on Antennas & Propagation (EuCAP), April 2011, Rome, Italy.

A. Bletsas, A. Vlachaki, E. Kampianakis, G. Sklivanitis, J. Kimionis, K. Tountas, M. Asteris and P. Markopoulos, "Towards Precision Agriculture: Building a Soil Wetness Multi-Hop WSN from First Principles", **invited paper**, Second International Workshop on Sensing Technologies in Agriculture, Forestry and Environment (EcoSense), Apri 2011, Belgrade, Serbia.

G. Sklivanitis and **A. Bletsas**, "Testing Zero-Feedback Distributed Beamforming with a Low-Cost SDR Testbed", **invited paper**, 45th Asilomar Conference on Signals, Systems and Computers (Asilomar), November 2011, Pacific Grove, California.

J. Kimionis, **A. Bletsas**, A.G. Dimitriou, G.N. Karystinos, "Inventory Time Reduction in Gen2 with Single-Antenna Separation of FM0 RFID Signals", IEEE RFID Theory and Applications Conference (RFID-TA), September 2011, Sitges Barcelona, Spain.

- o **Published**:

A.C. Polycarpou, G. Gregoriou, **A. Bletsas**, A. Dimitriou and J.N. Sahalos, "A UHF Radio Frequency Identification (RFID) System for Healthcare: Design and Implementation," 2010 MOBIHEALTH: International ICST Conference on Wireless Mobile Communication and Healthcare, Oct. 2010, Ayia Napa, Cyprus.

A. C. Polycarpou, G.K. Gregoriou, L. Papaloizou, P. Polycarpou, A.G. Dimitriou, **A. Bletsas** and J.N. Sahalos, "A Healthcare Application Based on Passive UHF RFID Technology", **invited paper**, 5th IEEE European Conference on Antennas and Propagation (EUCAP), April 2011, Rome, Italy.

A. G. Dimitriou, **A. Bletsas** and J. N. Sahalos, "On the Design of Passive RFID Tags for ASK Modulation," 5th IEEE European Conference on Antennas & Propagation (EuCAP), April 2011, Rome, Italy.

A. Bletsas, A. Vlachaki, E. Kampianakis, G. Sklivanitis, J. Kimionis, K. Tountas, M. Asteris and P. Markopoulos, "Towards Precision Agriculture: Building a Soil Wetness Multi-Hop WSN from First Principles", **invited paper**, Second International Workshop on Sensing Technologies in Agriculture, Forestry and Environment (EcoSense), Apri 2011, Belgrade, Serbia.

- • **Patents**
  - o *GRANTED*

B. Hubert, J. Jacobson, **A. Bletsas**, "Method for direct fabrication of nanostructures", **U.S. Patent 7998528**, August 16, 2011.

C – Awards & Distinctions

Nominated and accepted position as Associate Editor in newly founded **IEEE Wireless Communication Letters (WCL).**

D – Funded Projects

- Current projects:

FP7 IP Noptilus, led by Prof. Sidiropoulos and Prof. Liavas.

- Project proposals submitted:

3 Proposals to GSRT Thalis (all approved).
1 Proposal to GSRT Synergasia (as PI, under review).
1 Proposal to FP7 (as PI, not funded).
2 Proposals to Cyprus RPF (one approved).

E – Professional service

- Associate Editor duties

IEEE Wireless Communication Letters.

- Conference Technical Program Committee (TPC) service
  TPC Member of IEEE ICC 2011 - Wireless Networking Symposium.

  TPC Member of IEEE GLOBECOM 2011 - Ad-hoc and Sensor Networking Symposium.

  TPC Member of IEEE GLOBECOM 2011 - Workshop on Distributed Antenna Systems for Broadband Mobile Communications.

  TPC Member of IEEE RFID Technologies and Applications 2011.

- Reviewing activities
  Reviews for major Class A IEEE Journals (mostly for IEEE Transactions on Wireless Communications).

F – Service to the Department and the School

- Departmental responsibilities

Faculty representative for Board of European Students of Technology (BEST) – Chania Chapter, March 2011 Contest: two day event with significant student participation.

Organized Department's first Open House at June 2011 (consisting of Talk, Lab Tours and Demonstrations by each Lab; the goal was to acquaint the Department to the local community). Major help from **Prof. Lagoudakis** and the whole Department (thank you!)

- School-level responsibilities
Substitute-member at TUC Library Committee.

G – Advising

- Active graduate students supervised
  - M.Sc. students supervised
  G. Sklivanitis, "Disruptive technologies for Distributed Radio", in progress.

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Eleftherios Kampianakis, "Custom, Remotely Programmable Embedded Radios".
    - John Kimionis, "Design and Implementation of Backscatter Links with Software Defined Radio for Wireless Sensor Network Applications".
    - Manolis Alibertis, "Community RF sensing".
    - Dimitirs Ntilis, "Introduction to Rooftop Networking".
    - John Papametzelopoulos, "MAC & Routing for Wireless Sensor Network Applications".
    - Nikos Agadakos, "Multi-Channel MACs for Wireless Sensor Networks".
    - Efthimios Vlachos, "Distributed Channel Allocation Algorithms for Wireless Sensor Networks".
    - Nikos Fassarakis-Hilliard, "Cooperative Localization under Bandwidth Constraints".
    - Konstadinos Alexandris, "Zero-feedback Distributed Beamforming for Emergency Radio".
    - Panos Alevizos, "Factor Graphs in Telecommunications: Theory and Applications".

  - Undergraduate Students Research supervisor:
    - Konstadinos Tountas, "Networked GUI for RFID Infrastructure".
    - Michalis Bamiedakis and Spyros Daskalakis, "Web Monitoring of TUC Wireless Sensor Network".

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: September 1, 2010 to August 31, 2011

Name: Vassilis Digalakis
Rank: Full
Years in rank: 11
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information & Computer Networks Lab

A – Teaching

- Undergraduate courses taught
    - *Statistical Modeling and Pattern Recognition*
    - *Probabilities and Random Signals*

- Graduate courses taught
    - *Machine Learning*

B – Publications

- Publications in refereed conferences
    - Submitted
        - *A. Georgogiannis and V. Digalakis, "Feature Selection and Ensemble Methods for Speech Emotion Recognition", submitted to ICASSP 2012.*
        - *A. Georgogiannis and V. Digalakis, "Speech Emotion Recognition Using Non-Linear Teager Energy Based Features", submitted to ICASSP 2012.*

C – Awards & Distinctions

D – Funding

- Proposals submitted as Coordinator:
  - *"**Speech-Enabling Mobile Conversational Agents**", submitted to **ICT Call - SME initiative on Digital Content and Languages***.

E – Professional service

- *Reviewer in several journals.*
- *ICASSP Reviewer*
- *Interspeech Reviewer*
- *Eusipco Reviewer and TPC member*

F – Service to the Department and the School

- Departmental responsibilities

  - *Director, Information and Computer Networks Lab*

- Director, Telecommunication Systems Institute of Crete (TSI)

G – Advising

- Graduate students supervised
  - *Pavlos Papadopoulos, PhD*
  - *Alex Georgogiannis, MSc*
- Undergraduate students defended
  - *Alex Georgogiannis*
  - *Michalis Tsinas*
- Undergraduate students supervised
  - *Kostas Spiliotis*
  - *Kostas Tsiakas*
  - *George Fragiadakis*

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sept 1, 2010 to Aug 31, 2011

Name: Michalis Zervakis
Rank: Professor
Years in rank: 11
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
    - Digital Signal Processing
    - Digital Image Processing

- Graduate courses taught
    - Pattern Recognition

- Labs taught
    - Digital Signal Processing
    - Digital Image Processing

- Curriculum & course development
    - New courses / labs developed:
    - Lecture notes / slides developed: Digital Image Processing, Digital Signal Processing, Pattern Recognition
    - Authored textbooks: none

B – Publications

International Journals

- G. Giakos, S. Paturi, K. Valluru, P. Bathini, V. Adya, S. Sukumar, K. Ambadipudi, B. Mandadi, M. Becker, S. Athawale, P. Farajipour, D. Sheffer, G. Livanos and M. Zervakis, "Efficient Molecular Imaging Techniques using Optically Active Molecules", IEEE Trans. on Instrumentation and Measurement, Vol. 59, no. 11, 2010 http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5582281.
- V. Sakkalis, T. Cassar, M. Zervakis, C. Giurcaneanu, C. Bigan, S. Micheloyannis, K. Camilleri, S. Fabri, E. Karakonstantaki, K. Michalopoulos, "A Decision Support Framework for the Diagnosis of Children with Mild Epilepsy based on EEG Analysis", Journal of Neuroengineering and Rehabilitation, Vol. 7, No. 24, 2010 (available online: DOI: 10.1186/1743-0003-7-24).
- Roniotis, K. Marias, *V. Sakkalis* and M. Zervakis, "Diffusive Modelling of Glioma Evolution: A review", Journal of Biomedical Science and Engineering, Scientific Research Publishing, Vol. 3, No. 5, pp. 501-508, 2010 (DOI: 10.4236/jbise.2010.35070).
- M. E. Blazadonakis, M. Zervakis, D. Kafetzopoulos, "Complementary Gene Signature Integration in Multiplatform Microarray Experiments". IEEE transactions on Information Technology in Biomedicine, Vol. 15, No. 1, pp. 155-163, 2011 (DOI: 10.1109/TITB.2010.2072964)
- M. Zervakis, K. Michalopoulos, V. Iordanidou, and V. Sakkalis, "Intertrial Coherence and Causal Interaction among Independent EEG Components", Journal of Neuroscience Methods, Vol. 197, No. 2, pp. 302-314, 2011 (doi:10.1016/ j.jneumeth. 2011.02.001).
- G. Livanos , M. Zervakis , G.C. Giakos , K. Valluru , S. Paturi, and S. Marotta "Modeling the characteristics of material distributions in polarimetric images" Image Processing, IET, Vol. 5, No. 5, pp. 429 – 439, Aug. 2011
- I.N. Dimou, I. Tsougos, E. Tsolaki, E. Kousi, E. Kapsalaki, K. Theodorou, M. Kounelakis and M. Zervakis, Brain lesion classification using 3T MRS spectra and paired SVM kernels, Biomedical Signal Processing and Control, Vol. 6, pp. 314-320, 2011 (doi:10.1016/j.bspc.2011.01.001)
- M. Kounelakis, I.N. Dimou, M. Zervakis, I. Tsougos, E. Tsolaki, E. Kousi, E. Kapsalaki, K. Theodorou, Strengths and weaknesses of 1.5T and 3T MRS modalities in bran gliomas classification", IEEE Transactions on Information Technology in Biomedicine, Vol. 15, No. 4, pp.647-654, July 2011 (**DOI:** 10.1109/TITB.2011.2131146)
- M. E. Blazadonakis, M. Zervakis, "Integrating Biological Knowledge for Marker Gene Selection in Breast Cancer, Artificial Intelligence in Medicine, Elsevier, Vol. 53, pp. 57-71, 2011.

Book Chapters

- *V. Sakkalis* and M. Zervakis, "Linear and Nonlinear Synchronization Analysis and Visualization during Altered States of Consciousness", Recent Advances in Biomedical Engineering, Ed. by Ganesh R Naik, ISBN 978-953-307-004-9, IN-TECH, Vienna (http://sciyo.com/articles/show/title/linear-and-nonlinear-

synchronization-analysis-and-visualization-during-altered-states-of-consciousne),
2010.

International Conferences

- Roniotis, *V. Sakkalis*, G. Stamatakos, M. Zervakis, and K. Marias, "Glioma diffusive modeling: Calculating diffusion coefficients from atlases with proportional tissue information", 4th International Advanced Research Workshop on In Silico Oncology and Cancer Investigation, Athens, Greece, September 8-9, 2010.
- Ioannis N. Dimou and Michalis E. Zervakis A Generalized-Space Expansion of Support Vector Machines for diagnostic systems. ITAB 2010 accepted 15/7/2010
- Sfakianakis, S., Zervakis, M., Tsiknakis, and Kafetzopoulos, D.: "Integration of Biological Knowledge in the Mixture-of-Gaussians Analysis of Genomic Clustering" acepted in the 10th IEEE International Conference on Information Technology and Applications in Biomedicine (ITAB 2010)
- Farmaki, K. Mavrigiannakis, K. Marias, M. Zervakis, and *V. Sakkalis* "Assessment of Automated Brain Structures Segmentation based on the Mean-shift Algorithm Application in Brain Tumor", Information Technology Applications in Biomedicine (IEEE-ITAB 2010), Corfu, Greece, November 3-5, 2010.
- K. Moirogiorgou, G. Tsagatakis, E. Petrakis and M Zervakis, "A Real-Time System For HDTV Video Transmission Over IP Networks", IASTED International Conference on Signal and Image Processing and Applications, June 22- 24, 2011, Crete, Greece
- F. Gypas, E. Bei, M. Zervakis, S. Sfakianakis, A disease Annotation study of gene signatures in a breast cancer microarray dataset, 33nd IEEE-EMBS, Engineering in Medicine and Biology Society (EMBC 2011), Boston, MA, USA, Aug 30 – Sept. 3, 2011.
- G.C. Giakos , S. Marotta , C. Narayan , J. Petermann , S. Sestra, D. Pingili , S. A. Tsokaktsidis , D.B. Sheffer, W. Xu, M. Zervakis , G. Livanos , M. Kounelakis "Near Infrared Light Interaction with Lung Cancer Cells", 12MTC conference, Binjiang, China, 10-12 May 2011
- G. Livanos , M. Zervakis and G.C. Giakos "Histogram modeling of polarimetric images for analysis of material properties", 5th European Conference of the International Federation for Medical and Biological Engineering, Budapest, 14-18 September, 2011
- M. G. Kounelakis, M. E. Zervakis, G. C. Giakos and X. Kotsiakis, "The Role of the Glycolysis-Related Genes in Brain Gliomas Treatment Design", 5th European Conference of the International Federation for Medical and Biological Engineering, Budapest, 14-18 September, 2011
- F. Gypas, E. S. Bei, M. Zervakis, S. Sfakianakis, "A disease annotation study of gene signatures in a breast cancer microarray dataset", IEEE EMBS Conference, Aug. 30 – Sept. 3, 2011, Boston, MA, USA

D – Funded Projects

2011-2013   **Interreg** Cooperation Greece-Cyprus, Title: ***Development of Research Infrastructure for Clinical Computational tools and Servies for improved diagnosis and estimation of optimal therapy for oncological diseases (YPER0EN)***, Grant Agreement no. : K1_01_04

2010-2013   **ICT-2009.5.2** ICT for Patient Safety, Title: ***Real Time Simulation for Safer vascular Stenting*** **(RT3S)**, Grant Agreement no. : 248801

2010-2015   **GSRT Cooperation Programme**, Title: **OncoSeed Diagnostics:** Biology of Circulating Tumour Cells, Distant Metastasis & Development of Liquid Biopsy Methods

2010-2013   **GSRT Cooperation Programme**, Title: **Οστεοαρθρίτιδα: ολοκληρωμένη Συστηματική ανάλυση για στοχευμένη βιολογική θεραπεία**

- Project proposals submitted:
    - During the Calls of ICT and Health participated in the submission of four Thalis and one STREP;

E – Professional service

- Associate Editor duties
- Society Technical Committee duties
    - Session Chair IST-10
    - International Programme Committee for IST 2011
- Reviewing activities:
  Reviewer for "IEEE Transactions on Image Processing", "Image and Vision Computing", "Pattern Recognition", "Journal of Visual Communication and Image Representation", and many conferences in fields of expertise.
- Other
    - External reviewer for one PhD thesis from NTUA

F – Service to the Department and the School

- Departmental responsibilities
    - Lab Director: Digital Image and Signal Processing Laboratory
    - Lab Director: Automation Laboratory

- School-level responsibilities
    - Member and vice-chair ELKE

G – Advising
- Completed PhDs

- - Michalis Kounelakis, December 2011
- Completed MSc
  - Kostantina Moirogiorgou
  - Vasiliki Iordanidou

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Ioannis Dimou PhD student
    - Alexandros Roniotis PhD Student
    - Kostantina Moirogiorgou PhD student
    - George Livanos MASc student
    - Kostas Michalopoulos MASc student
    - Kalliopi Kalantzaki MASc student

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sept. 1, 2010 to Aug. 31, 2011

Name: George Karystinos
Rank: Assistant Professor
Years in rank: 5
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught
  - TEL 201 – Signals and Systems (Fall 2010)

- Graduate courses taught
  - TEL 601 – Probability and Random Processes (Fall 2010)

Labs taught
  TEL 201 – Signals and Systems Lab (Fall 2010)

B – Publications

- Publications in refereed journals
  - Submitted: those published (see below), plus
    1. A. Bletsas, J. Kimionis, A. G. Dimitriou, and **G. N. Karystinos**, "Single-antenna coherent detection of collided FM0 RFID signals," *IEEE Transactions on Communications*, submitted Apr. 2011.
  - Accepted: those published (see below)
  - Published

1. H. Ganapathy, D. A. Pados, and **G. N. Karystinos**, "New bounds and optimal binary signature sets-Part I: Periodic total squared correlation," *IEEE Transactions on Communications*, vol. 59, pp. 1123-1132, Apr. 2011.
2. H. Ganapathy, D. A. Pados, and **G. N. Karystinos**, "New bounds and optimal binary signature sets-Part II: Aperiodic total squared correlation," *IEEE Transactions on Communications*, vol. 59, pp. 1411-1420, May 2011.
3. K. R. Dalbey and **G. N. Karystinos**, "Generating a maximally spaced set of bins to fill for high-dimensional space-filling Latin hypercube sampling," *International Journal for Uncertainty Quantification*, vol. 1, pp. 241-255, July 2011.

- Publications in refereed conferences
  - Submitted: those accepted or published (see below)
  - Accepted: those published (see below), plus
    1. J. Kimionis, A. Bletsas, A. G. Dimitriou, and **G. N. Karystinos**, "Inventory time reduction in Gen2 with single-antenna separation of FM0 RFID signals," *IEEE RFID-TA 2011 - Intern. Conf. RFID-Tech. Applic.*, Sitges, Spain, accepted May 2011.
  - Published
    1. K. R. Dalbey and **G. N. Karystinos**, "Fast generation of space-filling Latin hypercube sample designs," in *Proc. 13th AIAA/ISSMO Multidisciplinary Analysis and Optimization Conference*, Fort Worth, TX, Sept. 2010, vol. 1, pp. 473-496.
    2. K. R. Dalbey and **G. N. Karystinos**, "Fast generation of low discrepancy spacefilling Latin hypercube sample designs," in *Proc. SEM IMAC XXIX Conference*, Jacksonville, FL, Feb. 2011.
    3. K. R. Dalbey and **G. N. Karystinos**, "Fast generation of nested space-filling Latin hypercube sample designs," presentation in *2011 SIAM Conference on Computational Science and Engineering*, Reno, NV, Mar. 2011.
    4. A. T. Kyrillidis and **G. N. Karystinos**, "Rank-deficient quadratic-form maximization over M-phase alphabet: Polynomial-complexity solvability and algorithmic developments," in *Proc. IEEE ICASSP 2011 - Intern. Conf. Acoust., Speech and Signal Proc.*, Prague, Czech Republic, May 2011, pp. 3856-3859.
    5. K. R. Dalbey and **G. N. Karystinos**, "Fast generation of nested space-filling Latin hypercube sample designs," in *Proc. 11th U.S. National Congress on Computational Mechanics*, Minneapolis, MN, July 2011.
    6. M. Asteris, D. S. Papailiopoulos, and **G. N. Karystinos**, "Sparse principal component of a rank-deficient matrix," in *Proc. IEEE ISIT 2011 - Intern. Symp. Inform. Theory*, Saint Petersburg, Russia, Aug. 2011, pp. 673-677.

D – Funded Projects

- Current projects
  - o Participated in Grant INFSO-ICT-270180 titled "Noptilus," led by Prof. A. P. Liavas.

- Project proposals submitted
  - o "AquaNet: Water management for a city with an intelligent, autonomous and low-cost wireless sensor network," submitted to the General Secretariat for Research and Technology of Greece, 2011 Cooperation Program, July 2011.
  - o "GRASS: Green autonomous wireless networks," submitted to the General Secretariat for Research and Technology of Greece, 2011 Cooperation Program, July 2011.

E – Professional service

- Conference Technical Program Committee service
  - o IEEE International Conference on Communications (ICC) 2012 - Wireless Communications Symposium.
- Reviewing activities
  - o Reviewer for journals
    - *IEEE Communications Letters*
    - *IEEE Signal Processing Letters*
    - *EURASIP Journal on Advances in Signal Processing*

F – Service to the Department and the School

- Departmental responsibilities
  - o Member of the Graduate Studies Committee, Department of ECE, Technical University of Crete, Sept. 2010 - Aug. 2011.

G – Advising

- Active graduate students supervised
  - o Ph.D. and M.Sc. students supervised
    1. Dimitris Koupatsiaris, "Efficient techniques for channel decoding," Ph.D. student.
    2. Georgina Abou-Elkheir, "Optimal blind PAM sequence detection in Rayleigh fading with polynomial complexity," M.Sc. student.
    3. Panagiotis Markopoulos, "Differential MPSK space-time encoding," M.Sc. student.

- o Ph.D. and M.Sc. degrees awarded

- Undergraduate students supervised
  - o Diploma theses in progress (supervisor)
    1. John Fountzoulas, "Selection of subsets of orientations for high-dimensional space-filling Latin hypercube sampling."
    2. Alexandros Sklikas, "An algorithm with complexity $O(N^3 \log N)$ for rank-4 quadratic form maximization with a binary vector."
  - o Diploma theses completed (supervisor)
    1. Nikos Tsagkarakis, "Design and decoding of polar codes," awarded July 2011.
    2. Panagiotis Markopoulos, "Maximum-likelihood noncoherent OSTBC MPSK detection," awarded Oct. 2010.

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Polychronis Koutsakis
Rank: Assistant Professor (tenure-track)
Years in rank: 3 (in TUC), 5.5 (in total, McMaster+TUC)
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information & Networks Laboratory

A – Teaching

- Undergraduate courses taught
    - Computer Networks I
    - Introduction to Modeling and Performance Evaluation of Communication Networks

- Graduate courses taught
    - Special Topics in Communication Networks

- Curriculum & course development
    - Lecture notes / slides developed:
        - Slides for both undergraduate courses that I taught

B – Publications

- Publications in refereed journals

    - **Submitted: those published/appeared (see below)**
- **P. Koutsakis**, "Token and Self Policing-Based Scheduling for Multimedia Traffic Transmission over WLANs", submitted to the IEEE Transactions on Vehicular Technology.

- o **Published:**
- L. Qiao and **P. Koutsakis**, "Adaptive Bandwidth Reservation and Scheduling for Efficient Wireless Telemedicine Traffic Transmission", IEEE Transactions on Vehicular Technology, Vol. 60, No. 2, 2011, pp. 632-643.
- **P. Koutsakis**, "Using Traffic Prediction and Estimation of Provider Revenue for a Joint GEO Satellite MAC/CAC Scheme", ACM/Springer Wireless Networks Journal, Vol. 17, No. 3, 2011, pp. 797-815.
- **P. Koutsakis**, D. Vasileiadou and C. Stamos, "Performance Evaluation of the FPRRA Framework for GEO Satellites in the Absence of Accurate Multimedia Traffic Prediction", invited paper to the inaugural issue of the International Journal on Communications, Antenna and Propagation (Praise Worthy Prize Publishing), February 2011.

- Publications in refereed conferences
  - o Submitted: those published/appeared (see below)
    - ▪ J. Sotiropoulos, A. Delimargas and **P. Koutsakis**, "Exploiting GoP Patterns for Video Traffic Control over Wireless Networks", submitted to the IEEE WCNC 2012.
    - ▪ **P. Koutsakis**, "A New Scheduling Mechanism for Telemedicine and H.264 Video Traffic Transmission over WLANs", under preparation for submission to the IEEE WoWMoM 2012.

  - o Accepted:
    - ▪ **P. Koutsakis**, C. Stamos, D. Vasileiadou and A. Lazaris, "Performance Evaluation of the FPRRA Framework for GEO Satellites in the Absence of Accurate Video Traffic Modeling", accepted for presentation in the 1st IEEE International Conference on Consumer Electronics-Berlin 2011.

- Patents
  - o A. M. Kholaif, T. D. Todd, **P. Koutsakis** and M. N. Smadi, "Wireless Access Point Methods And Apparatus Using Dynamically-Activated Service Intervals", U.S (ID number: 34754) and Canadian patent submitted, by Research In Motion (RIM).

D – Funded Projects

- Current projects:
  - o *December 2011- November 2013,* Principal Investigator, Research grant from the Technical University of Crete: "Self-Policing for Energy Efficient Multimedia Traffic Transmission over Wireless Local Area

Networks", 15000 € total funding.

- March 2009-February 2012, Member of the Research Group of 15 university professors from 4 Canadian universities (University of Ottawa, University of Waterloo, McMaster University, Queen's University) who wrote the research proposal titled: "WiSense: Wireless Heterogeneous Sensor Networks in the e-Society". This research is being funded by the Ontario Research Fund Research Excellence (*ORF-RE*) and by the industry. Total budget: $9223800, ORF funding: $3074600. Industrial partners: Bell Canada, Alcatel-Lucent, IBM, RIM (Research in Motion), Freescale Semiconductor, PacketDNA, Wireless Network Design & EMC Services.

- Project proposals submitted:
  - ARISTEIA (Principal Investigator)
  - SYNERGASIA II (Coordinator: Athens University of Economics and Business)

E – Professional service

- Associate Editor duties
  - IEEE Communication Surveys&Tutorials Journal
  - Computer Communications Journal (Elsevier)

- Society Technical Committee duties
  - Voting Member of the IEEE Multimedia Communications Technical Committee (MMTC)
  - Member of the IEEE MMTC "Green Multimedia Communications" Interest Group
  - Member of the IEEE MMTC "QoE for Multimedia Communications" Interest Group
  - Member of the IEEE MMTC "Wireless Technology for Multimedia Communications" Interest Group

- Conference Technical Program Committee service
  - 13th Communications and Networking Simulation Symposium (CNS'10)
  - IEEE International Conference on Wireless Communications and Mobile Computing (IWCMC) 2010 – General Symposium
  - 35th IEEE Conference on Local Computer Networks (LCN) 2010
  - 8th ACIS International Conference on Software Engineering Research, Management and Applications (SERA 2010)
  - 5th International Conference on Access Networks (AccessNets 2010)
  - 2nd International ICST Conference on Mobile Networks and Management (MONAMI 2010)

- o 9th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2010)
  - o IEEE GLOBECOM 2010 Ad-Hoc and Sensor Networking Symposium
  - o IEEE GLOBECOM 2010 Selected Areas in Communications Symposium, Satellite and Space Communications Track
  - o IEEE International Workshop Towards Smart Communications and Network technologies applied on Autonomous Systems (SaCoNAS, in conjunction with GLOBECOM 2010)
  - o IEEE CCNC 2011 – Work in Progress Track
  - o 10th International Conference on Networks (ICN 2011)
  - o 1st International Conference on Pervasive and Embedded Computing and Communication Systems (PECCS 2011)
  - o 10th International Symposium on Programming and Systems (ISPS 2011)
  - o 12th IEEE International Symposium on a World of Wireless Mobile and Multimedia Networks (WoWMoM 2011)
  - o 10th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2011)
  - o 14th Communications and Networking Simulation Symposium (CNS'11)
  - o 7th IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob) 2011
  - o IEEE ICC 2011 – Communications Software, Services and Multimedia Applications Symposium
  - o IEEE ICC 2011 - Symposium on Selected Areas in Communications (SAC), Satellite and Space Communications (SSC) Track
  - o IEEE ICC 2011 – Wireless Networking Symposium

- Conference Organization (specify role)
  - o Founder and General Co-Chair for the 1st International IEEE Workshop on Video Everywhere (VidEv 2012), part of the 13th IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks, June 2012, San Francisco, USA

- Reviewing activities
  - o IEEE Transactions on Mobile Computing
  - o IEEE Transactions on Multimedia
  - o IEEE Transactions on Circuits and Systems for Video Technology
  - o IEEE Communications Letters
  - o ACM/Springer Wireless Networks Journal
  - o ACM/Springer Mobile Networks and Applications Journal
  - o Pervasive and Mobile Computing (Elsevier Science Publisher)
  - o Simulation Modelling Practice and Theory (Elsevier Publ.)

F – Service to the Department and the School

- Departmental responsibilities

- o Substitute Member of the undergraduate studies committee
- o Substitute Member of the graduate studies committee

G – Advising

- Active graduate students supervised
    - o Ph.D. and M.Sc. students supervised
        - ▪ Konstantina Dimitriou (MSc student)

- Undergraduate students supervised
    - o Diploma theses in progress (supervisor). Students' Names:
        - ▪ Dimitra Vasileiadou
        - ▪ Thomas Hall
        - ▪ Ntora Kouskouli
        - ▪ Vaggelis Maratsolas
        - ▪ Irini Spanou
        - ▪ Katerina Vlachaki
        - ▪ Charis Stamos
        - ▪ Georgia Koutsandria
        - ▪ Manolis Skeuakis
    - o Diploma theses completed (supervisor)
        - ▪ Ioannis Sotiropoulos, "Call Admission Control for Multimedia Traffic Transmission over Wireless Cellular Networks"
        - ▪ Athanasios Delimargas, "Traffic Policing for H.264 Video Streams"

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Athanasios P. Liavas
Rank: Professor
Years in rank: 3
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Lab

A – Teaching

- Undergraduate courses taught

  - Telecommunications Systems I
  - Wireless Communications

Curriculum & course development

- Electronic lecture notes & lab projects for Telecommunications Systems I
- Electronic lecture notes & lab projects for Wireless Communications

B – Publications

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

  - Accepted:
    1. **A. P. Liavas** and D. Tsipouridou "Single-Carrier systems with MMSE linear equalizers: performance degradation due to channel

and CFO estimation errors," *IEEE Trans. Signal Proc.* (accepted with minor revisions).

- Publications in refereed conferences
    - Published:
        1. **A. P. Liavas** and D. Tsipouridou "Single-Carrier systems with MMSE linear equalizers: performance degradation due to channel and CFO estimation errors," *IEEE ICASSP 2011*, Prague.

D – Funded Projects

- Current projects:
    - Noptilus: autoNomous self-Learning OPTImal, and compLete Underwater Systems, FP7-2009, PI for TSI. Project duration: 2011-2014.

E – Professional service

- Society Technical Committee duties
    - Elected Member: *IEEE Signal Processing for Communications and Networking Technical Committee*

- Conference Technical Program Committee service
    - *SPAWC 2011*

- Reviewing activities
    - *ICASSP 2011, SPAWC 2011, IEEE Trans. Signal Proc.*

F – Service to the Department and the School

- Departmental responsibilities
    - Department Chair
    - Member of the Undergraduate and Postgraduate Study Committee
    - Member of the Internal Evaluation Committee
- School-level responsibilities
    - Senate member (as ECE Department Chair)

G – Advising

- Active graduate students supervised
    - Ph.D. and M.Sc. students supervised

      1. Aleksios Balatsoukas-Stimming, MSc student (2010--)

- o PhD. And M.Sc. degrees awarded
  - 1. Emmanouil Matigakis, MSc

- Undergraduate students supervised
  - o Diploma theses in progress (supervisor)
    1. Charitakis Georgios
    2. Georgiadou Despoina

  - o Diploma theses completed (supervisor)
    1. Mantzakos Panagiotis
    2. Aleksiou Evaggelos
    3. Lakiotakis Emmanouil

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Michael Paterakis
Rank: Professor
Years in rank: 12
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information and Computer Networks Laboratory

A – Teaching

- Graduate courses taught

    o *Computer Communication Network Protocols* (TEL 605), taught in the Spring semester. The last time I offered the course was in 2004, so this time new material was introduced and the course was developed from scratch.

D – Funded Projects

- Current projects:

o "Quality Assurance Unit for Higher Education of the Technical University of Crete (MODIP)". Funded for the period 17/08/2010 – 31/07/2013 by the Education and Lifelong Learning Project of the 2007 – 2013 National Strategic Framework Program for Greece (ESPA), Budget: 241.927 €. Professor M. Paterakis wrote the proposal and served as PI for the period 17/08/2010 – 17/12/2010.

o "Open Access Digital Library Services of the Technical University of Crete". Funded for the period 04/2011 – 04/2013 by the Digital Convergence Project of the 2007 – 2013 National Strategic Framework Program for Greece (ESPA), Budget: 312.000 €. Professor M. Paterakis wrote the proposal.

- o "Provision of Techno - Economic Advisory Services for the National Project: Open Access, Optical Fiber based Broadband Network to the Home". Funded for the period 7/2011 – 3/2012 by the Greek Ministry of Infrastructures, Transportation and Networks. PI: Prof. M. Paterakis, Budget: 95.000 €.
- o "Functional and Logical Design and Implementation of the Voice / Data Network of the Municipality of Chania to achieve Secure Information Transport and prevent Malicious Attacks – and - Design and Installation of the Wireless Network of the Municipality of Chania to cover Areas of Tourist Interest". Funded for the period 1/06/2011 – 31/05/2012 by the Municipality of Chania. PI: Prof. M. Paterakis. Budget: 75.000 €.

F – Service to the Department and the School

- School-level responsibilities

- o September 2005 – October 2010. Vice-Rector of Academic Affairs and Personnel, Technical University of Crete.
- o Member of the University Senate, 2005 – 2010, (University Vice-Rector).
- o Associate Chairman of the Board, 2008 – 2010, Company for the Management and Exploitation of the Property and for the Development, Management and Exploitation of the Technology Park of the Technical University of Crete.
- o Member of the Board, Telecommunication Systems Research Institute (T.S.I.), Technical University of Crete.

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Alexandros Potamianos
Rank: Associate Professor
Years in rank: 8+1/2
Full-time or part-time: On leave
Division: Telecommunications
Lab affiliation: Speech and Dialogue Group

B – Publications

- Publications in refereed journals
  - Submitted:
    - T. Moschopoulos, E. Iosif, L. Demetropoulou, **A. Potamianos** and S. Narayanan, "Towards the Automatic Extraction of Policy Networks using Web Links and Documents," *IEEE Transactions on Knowledge and Data Engineering*, sumbitted, 2011.
  - Published:
    - S. Yildirim, S. Narayanan, and **A. Potamianos**, "Detecting Emotional State of a Child in a Conversational Computer Game," *Computer, Speech and Language*, vol. 25, no. 1, pp. 29-44, Jan. 2011.
    - D. Dimitriadis, P. Maragos, and **A. Potamianos**, " On the Effects of Filterbank Design and Energy Computation on Robust Speech Recognition ," *IEEE Transactions on Audio, Speech and Language Processing*, Aug. 2011.

- Publications in refereed conferences
  - Accepted/Published:
    - P. Tsiakoulis, and **A. Potamianos**, "On the Effect of Fundamental Frequency on Amplitude and Frequency Modulation Patterns in

Speech Resonances," in Proc. *Interspeech*, Makuhari, Japan, Sept. 2010.

- N. Malandrakis, **A. Potamianos**, G. Evangelopoulos and A. Zlatintsi, "A supervised approach to movie emotion tracking," in Proc. *Intl. Conf. on Acoustics, Speech and Signal Processing* (ICASSP-2011), Prague, Czech Republic, Apr. 2011.
- N. Malandrakis, **A. Potamianos**, E. Iosif and S. Narayanan, "Kernel models for affective lexicon creation," in Proc. *Interspeech* , Florence, Italy, Aug. 2011.

  o Accepted:
  - N. Malandrakis, **A. Potamianos**, E. Iosif and S. Narayanan, "EmotiWord: Affective Lexicon Creation with Application to Interaction and Multimedia Data," in Proc. *MUSCLE International Workshop on Computational Intelligence for Multimedia Understanding* , Pisa, Italy, Dec. 2011.

D – Funded Projects

- Current projects (Principal Investigator):
  o ELKE Basic Research Project, 2010-2011 PI: **A. Potamianos**, Funding level: 15K €.

- Current projects (collaborator):
  o "Dicta-Sign: Sign Language Recognition, Generation and Modeling with Application in Deaf Communication" FP7-STREP, NTUA PI: P. Maragos, 2009 - 2011

- Project proposals submitted:
  o PortDial, " Language Resources for Portable Multilingual Spoken Dialogue Systems ", EU-IST FP7
  o MALiDA, "Machine-Aided Linked-Data Annotation for Video Digital Archives ", EU-IST FP7

E – Professional service

- Editorial Board for "Computer, Speech and Language" Journal (Elsevier)

- Associate Guest Editor for the special issue on "Speech and language processing of children's speech for child-machine interaction applications", *ACM Transactions on Speech and Language Processing*, Aug. 2011

- Conference Organization:
  o 2010 IEEE/ACM Workshop on Spoken Language Techn. (Demo Chair)

- 2011 MUSCLE International Workshop on Computational Intelligence for Multimedia Understanding (Program Committee)

- Reviewing activities
  - Reviewer for *IEEE Trans. on Audio, Speech and Language Processing, IEEE Signal Proc. Letters, Speech Processing, ACM Trans. on Speech and Language Processing*
  - Reviewer for EU-IST language technology area

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Ilias Iosif (Ph.D.), 2007-
    - Maria Giannoudaki (M.Sc.), 2008-
    - Valia Kouloumenta (M.Sc.), 2010-

  - Ph.D. degrees awarded
    - Manolis Perakakis (Ph.D.), 2011

  - M.Sc. degrees awarded
    - Theodosis Moschopoulos (M.Sc.), 2011

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Stamatis Kourpas

  - Diploma theses completed (supervisor)
    - Giorgos Evgeniadis
    - Nikos Xirouchakis
    - Nikos Nikolaou

Technical University of Crete

Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2010 to Aug. 31, 2011

Name: Nikos Sidiropoulos
Rank: Professor
Years in rank: 9+1/2
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught
    - Introduction to Optimization (Fall 2010)
    - Statistical Signal Processing for Communications (Spring 2011)

- Graduate courses taught
    - Convex Optimization (Spring 2011)

- Curriculum & course development
    - Introduction to Optimization (new senior elective - Fall 2010)

B – Publications

- Publications in refereed journals
    - Submitted
        - E. Matskani, N.D. Sidiropoulos, and L. Tassiulas, ``Adaptive Convex Approximation Algorithms for Back-pressure Power Control'', submitted to *IEEE Trans. on Signal Processing*.
    - Published
        - D. Angelosante, G.B. Giannakis, and N.D. Sidiropoulos, ``Estimating Multiple Frequency-Hopping Signal Parameters via

Sparse Linear Regression", *IEEE Trans. on Signal Processing*, 58(10):5044-5056, Oct. 2010.
- D. Nion, N.D. Sidiropoulos, ``Tensor Algebra and Multi-dimensional Harmonic Retrieval in Signal Processing for MIMO Radar", *IEEE Trans. on Signal Processing*, 58(11):5693-5705, Nov. 2010.

- Publications in refereed conferences

  - Submitted:
    - E.E. Papalexakis, and N.D. Sidiropoulos, "Co-clustering as multilinear decomposition with sparse latent factors", in *Proc. IEEE ICASSP 2011*, May 22-27, 2011, Prague, Czech Republic.
    - E. Matskani, N.D. Sidiropoulos, and L. Tassiulas, "Convex Approximation Algorithms for Back-pressure Power Control of Wireless Multi-hop Networks", in *Proc. IEEE ICASSP 2011*, May 22-27, 2011, Prague, Czech Republic.
  - Accepted: same as published (see below)
  - Published
    - E.E. Papalexakis, and N.D. Sidiropoulos, "Co-clustering as multilinear decomposition with sparse latent factors", in *Proc. IEEE ICASSP 2011*, May 22-27, 2011, Prague, Czech Republic.
    - E. Matskani, N.D. Sidiropoulos, and L. Tassiulas, "Convex Approximation Algorithms for Back-pressure Power Control of Wireless Multi-hop Networks", in *Proc. IEEE ICASSP 2011*, May 22-27, 2011, Prague, Czech Republic.
    - E.E. Papalexakis, N.D. Sidiropoulos, and M. Garofalakis, "Reviewer Profiling Using Sparse Matrix Regression", in *Proc. 2010 IEEE International Conference on Data Mining (ICDM) Workshops / Workshop on Optimization Based Methods for Emerging Data Mining Problems (OEDM)*, Dec. 14, 2010, Sydney, Australia.

C – Awards & Distinctions

- Awarded *IEEE Signal Processing Society Meritorious Service Award* (2010), "for dedicated service and leadership in the field of signal processing for communications and networking" (presented at the ICASSP Conference, Prague, May 2011).

D – Funded Projects

- Current projects:

- o Factor Analysis of Social Networks, ERO, PI: N.D. Sidiropoulos. Funding level: 25K €.
- o NOPTILUS FP7 IP (started Spring 2011).

E – Professional service

- Associate Editor duties
  - o Member of the Editorial Board, *IEEE Signal Processing Magazine* (Jan. 2009 -)
  - o Associate Editor, Elsevier *Signal Processing* (Jan. 2009 -)
  - o Area Editor: Signal Processing for Communications, Signal Processing e-Reference (Elsevier)

- Society Technical Committee duties

- Conference Technical Program Committee service
  - o IEEE ICASSP 2011
  - o IEEE CAMSAP 2011

- Conference Organization (specify role)
  - o Tutorials and student paper awards chair for IEEE ICASSP 2011 – Prague
  - o Publicity chair for IEEE ICASSP 2015 - Australia

- Reviewing activities
  - o Regular reviewer for *IEEE Trans. on Signal Processing, IEEE Trans. on Wireless Communications*.

F – Service to the Department and the School

- Departmental responsibilities
  - o Laboratory Director, Telecommunications Lab, Department of Electronic and Computer engineering, Technical University of Crete.

- School-level responsibilities
  - O Associate Director and Member of the Board, Telecommunication Systems Institute, Technical University of Crete.

G – Advising

- Active graduate students supervised
  - o Ph.D. and M.Sc. students supervised
    - Evaggelia Matskani (Ph.D), matskani@telecom.tuc.gr Year of initial enrollment in program: 2007.

- Evaggelos Papalexakis (M.Sc.), vag_papalex@yahoo.gr
  Year of initial enrollment in program: 2010.

o PhD. And M.Sc. degrees awarded
  - Evaggelos Papalexakis (M.Sc.), July 2011.