Annual Activity Report

From Sep. 1, 2009 to Aug. 31, 2010
Chania, Crete
Dec. 31, 2010
iCubes v0.2: Low-power and low-cost, programmable transceiver node and sensor network, designed and built at Telecom Lab, for teaching and research purposes.
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.

While the Department’s performance is good in all these 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 fifth AAR, covering the period from Sep. 1, 2009 to Aug. 31, 2010. 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.

Athanasios P. Liavas
liavas@telecom.tuc.gr
Sep. 2009 – August 2010 Awards and Honors

(See [http://www.ece.tuc.gr/Controller?actionClass=loadFirstPage&action=loadFirstPage](http://www.ece.tuc.gr/Controller?actionClass=loadFirstPage&action=loadFirstPage) for full list and recent updates)

**Paper Distinctions**


**Honorary Awards**


**Keynote Addresses**

Nikos D. Sidiropoulos, Plenary Speaker at *IEEE SPAWC 2010*, June 20-23, Marrakech, Morocco.

Apostolos Dollas, Keynote Speaker, *Annual IEEE Computer Society Symposium on VLSI* (ISVLSI), Lixouri, Greece, July 5-7, 2010, delivering a lecture on “Reconfigurable Architectures for Bioinformatics Applications”.

Ioannis Papaefstathiou, Keynote Speaker, *8th IEEE Workshop on Intelligent Solutions in Embedded Systems* (WISES), Heraklion, Greece, July 8-9, 2010, delivering a lecture on “Multicores for low-power embedded systems and high performance computing”.

Ioannis Papaefstathiou, Keynote Speaker, *IEEE International Conference on Cluster Computing* (Cluster), Heraklion, Greece, September 20-24, 2010, delivering a lecture on “Highly Parallel Implementations of Bioinformatics Applications”.


**Other Distinctions**

Pavlos Malakonakis, Miltiadis Smerdis, Euripides Sotiriades, Apostolos Dollas, “An FPGA Based Sudoku Solver Based on Simulated Annealing Methods”, Third place in the International Conference on Field Programmable Technology Design Competition (a Sudoku Solver up to dimension 15 running on actual XUP standardized hardware platforms), Sydney, Australia, Dec. 9-11, 2009.
Computer Science Division

Faculty members

- Garofalakis Minos
- Deligiannakis Antonios
- Lagoudakis Michail
- Mania Ekaterini
- Petrakis Euripides
- Samoladas Vassilios
- Christodoulakis Stavros
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report
For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Minos Garofalakis
Rank: Professor
Years in rank: 1 year, 8 months (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
  - New courses / labs developed
  - Lecture notes / slides developed
    Updates slides for curriculum courses: PLI-401, PLI-406, PLI-627

B – Publications

- Publications in refereed journals
  - Submitted: those published/appeared (see below)
  - Accepted:
  - Published:
- Reynold Cheng, Michael Chau, Minos N. Garofalakis, and Jeffrey Xu Yu. “Guest Editors’ Introduction: Special Section on Mining Large Uncertain and Probabilistic Databases”, *IEEE Transactions on Knowledge and Data Engineering*, 22(9), September 2010.

- **Publications in refereed conferences**
  - Submitted: those published/appeared (see below)
    - Daisy Zhe Wang, Michael J. Franklin, Minos Garofalakis, and Joseph M. Hellerstein. "Hybrid In-Database Information Extraction"
    - Vibhor Rastogi, Nilesh Dalvi, and Minos Garofalakis. “Large Scale Collective Entity Matching”
  - Accepted:
  - Published:

- **Books and edited book chapters**
  - Reynold Cheng, Michael Chau, Minos N. Garofalakis, and Jeffrey Xu Yu (Editors). Special Issue on Mining Large Uncertain and Probabilistic Databases, *IEEE Transactions on Knowledge and Data Engineering*, September 2010.

- **Patents**
  - **GRANTED**

○ FILED

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  ○ Fellow & Scientist in Charge for “HeisenData: Towards a Next-Generation Uncertain-Data Management System”, FP7 Marie-Curie International Reintegration Grant (Fellow’s budget 100.000€) 2010-2014.
  ○ 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.
  ○ Principal Investigator for “Continuous Analysis of Distributed Data Streams”, Basic Research Grants, Research Office (ELKE), Technical University of Crete (PI budget 15.000€), 2010-2012.

- Project proposals submitted:
  ○ 2 proposals submitted to Greek national program “Cooperation” (Greek Secretariat for Research and Technology).

E – Professional service

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

- Conference Technical Program Committee service
F – Service to the Department and the School

- Departmental responsibilities
  - Member of the Undergraduate Studies Committee (September 2009 – 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
  - Daisy Zhe Wang (PhD student, UC-Berkeley, co-advised with J. Hellerstein and M. Franklin)
  - Kostas Athanasoglou (MSc student, TUC)
  - Vagelis Vazaios (MSc student, TUC)
- PhD. And M.Sc. degrees awarded
- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - 4 theses in progress (A. Nydriotis, G. Hristopoulos, L. Papageorgiou, G. Fragiadoulakis)
  - Diploma theses completed (supervisor)
Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Antonios Deligiannakis  
Rank: Assistant Professor  
Years in rank: 2 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 111: 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

- Labs taught
  -

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

B – Publications

- Publications in refereed journals
  - Submitted: those published/appeared (see below)
  - Accepted:
  
  - Published:
    - Michaela A. Bornea, Vasilis Vassalos, Yannis Kotidis, **Antonios Deligiannakis**. “Adaptive Join Operators for Result Rate Optimization on Streaming Inputs,” *IEEE Transactions on Knowledge and Data Engineering*, 2010 (“Best of ICDE 2009” Special Issue).

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

  - Accepted:

  - Published:
Networks. HDMS 2010.

- Books and edited book chapters
- Patents

**C – Awards & Distinctions**

**D – Funded Projects**

- Current projects:
  - Funding for Infrastructure in Wireless Sensor Networks. Technical University of Crete. Amount: 170,000 €

- Project proposals submitted:
  - Funding for Infrastructure in Wireless Sensor Networks. Technical University of Crete. Amount: 170,000 €
  - 3 Thales proposals.

**E – Professional service**

- Associate Editor duties
  -
- Society Technical Committee duties
  -
- Conference Technical Program Committee service
  - ACM Conference on Information and Knowledge Management (CIKM 2010)
  - IEEE International Conference on Computational Science and Engineering (CSE 2010)
  - East-European Conference on Advances in Databases and Information Systems (ADBIS 2010)
  - ACM Workshop on Data Engineering for Wireless and Mobile Access (MobiDE 2010)
  - International Workshop on Sensor Networks Technologies for Information Explosion Era (SeNTIE 2010)
  - Hellenic Data Management Symposium (HDMS 2010)

- Conference Organization (specify role)
  - Publicity Chair at ACM Workshop on Data Engineering for Wireless and Mobile Access (MobiDE 2010)

- Reviewing activities
  - ACM Transactions on Database Systems (TODS)
  - IEEE Transactions on Knowledge and Data Engineering (TKDE)
  - Parallel and Distributed Databases

**F – Service to the Department and the School**

- Departmental responsibilities
○ Consultant in undergraduate studies (2\textsuperscript{nd} semester courses, Spring 2010)

- School-level responsibilities
  ○

G – Advising

- Active graduate students supervised
  ○ Ph.D. and M.Sc. students supervised
    ▪ Stelios Mammas
    ▪ Yannis Flouris
    ▪ Konstantinos Tsakonas
  ○ Ph.D. And M.Sc. degrees awarded
    ▪

- Undergraduate students supervised
  ○ Diploma theses in progress (supervisor)
    ▪ Sofia Georgiakaki
    ▪ Dionisios Kalogiropoulos
    ▪ Makis Mpousgos
    ▪ Eytyxios Babourakis
    ▪ Smalis Sklavos
    ▪ Aleka Seliniotaki
    ▪ Yannis Papadakis
    ▪ Manos Vogiatzis
    ▪ Yannis Xarxaros
    ▪ Sabbas Bourdakis
  ○ Diploma theses completed (supervisor)
    ▪ Agis Charsias (co-advisor, with Minos Garofalakis)
    ▪ Xrysobalantis Kanellopoulos
Technical University of Crete  
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

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

A – Teaching

- Undergraduate courses taught
  - COMP 503 – Autonomous Agents (Fall 2009)
  - COMP 411 – Theory of Computation (Spring 2010)
  - COMP 417 – Artificial Intelligence (Spring 2010)
- Graduate courses taught
  - COMP 625 – Autonomous Agents (Fall 2009)
- Labs taught
  - COMP 503 – Autonomous Agents Laboratory (Fall 2009)
- Curriculum & course development
  - New courses / labs developed
    - Updated laboratory exercises for Autonomous Agents (undergrad)
  - Lecture notes / slides developed
    - Updated lecture slides for Theory of Computation
    - Updated lecture slides for Artificial Intelligence
    - Updated lecture slides for Autonomous Agents (undergraduate)
    - Updated lecture slides for Autonomous Agents (graduate)

B – Publications

- Publications in refereed journals
  - Accepted:
• Publications in refereed conferences
  ○ Published:

• Books and edited book chapters
  ○ Accepted:

C – Awards & Distinctions

D – Funded Projects

• Current projects:

• Project proposals submitted:
  ○ “NOPTILUS: autonomous, self-learning, optimal, and complete underwater systems”, Integrated Project, Information and Communication Technologies (ICT),
Seventh Framework Programme (FP7), European Commission, PIs for TSI/TUC: N. Sidiropoulos and M. G. Lagoudakis.

E – Professional Service

- Associate Editor duties
  - *Editorial Board*, Journal of Intelligent Learning Systems and Applications
- Society Technical Committee duties
  - *Standard Platform League Executive Committee*, RoboCup Federation
  - *Technical Committee on Robot Learning*, IEEE Robotics and Automation Society
- Conference Technical Program Committee service
  - *Conference on Learning and Intelligent Optimization 2010 (LION)*
  - *26th International Conference on Machine Learning (ICML 2010)*
  - *24th AAAI Conference on Artificial Intelligence (AAAI 2010)*
  - *6th Hellenic Conference on Artificial Intelligence (SETN 2010)*
  - *AAMAS Workshop on Multi-agent Sequential Decision Making 2010*
  - *14th International RoboCup Symposium 2010*
  - *3rd International Conference on Agents and Artificial Intelligence 2011*
  - *10th Intl Joint Conf on Autonomous Agents and Multiagent Systems 2011*
- Conference Organization (specify role)
- Reviewing activities
  - *Journal of Machine Learning*
  - *NeuroComputing Journal*
  - *Journal of Robotics and Autonomous Systems*
  - *IEEE Transactions on Robotics*
  - *Conference on Learning and Intelligent Optimization 2010 (LION)*
  - *26th International Conference on Machine Learning (ICML 2010)*
  - *24th AAAI Conference on Artificial Intelligence (AAAI 2010)*
  - *6th Hellenic Conference on Artificial Intelligence (SETN 2010)*
  - *AAMAS Workshop on Multi-agent Sequential Decision Making 2010*
  - *14th International RoboCup Symposium 2010*
  - *IEEE International Conference on Robotics and Automation 2010 (ICRA)*
  - *IEEE/RSJ Intl Conference on Intelligent Robots and Systems 2009 (IROS)*
  - *49th IEEE Conference on Decision and Control 2010 (CDC)*

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

- Postdoctoral Fellows (supervisor)
- Graduate students
  - Ph.D. and M.Sc. theses in progress (supervisor)
- Eleftherios Chatzilaris (M.Sc. program), “Coordinated Action and Learning in RoboCup”, Enrollment: 2009
- Ioannis Skoulakis (M.Sc. program), “Efficient Reinforcement Learning in Alternating Games”, Enrollment: 2010

- Ph.D and M.Sc. theses completed (committee member)
  - Alexandros Zotos, “A Real-Time Selective Rendering Algorithm based on Spatial Cognition”
  - Pavlos Papadopoulos, “Identification of Linear Systems in Canonical Form with the Expectation Maximization Algorithm”

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

- Undergraduate students
  - Diploma theses completed (supervisor)
    - Evangelos Vazaios, “Narukom: A Distributed, Cross-Platform, Transparent Communication Framework for Robotic Teams”
    - Ioannis Skoulakis, “Systematic Search and Reinforcement Learning for the Board Game Neighbours”
    - Vlassis Dimitriades, “Reinforcement Learning in Real Time Strategy Games: Case Study on the Free Software Game Glest”
    - Nikolaos Papoulis, “High-Level Debugging: Facilities and Interfaces – Design and Development of a Debug-Oriented IDE”
    - Andreas Panakos, “Efficient Color Recognition Under Varying Illumination Conditions For Robotic Soccer”
    - Ioannis Marakis, “Conversion, Unification, and Visualization of Meta-Information for Gene Regulatory Networks”
    - Maria Rovatsou, “Minimax Search and Reinforcement Learning for Adversarial Tetris”

- Diploma theses in progress (supervisor)
  - Dimitrios Katsaitis, “Estimation of 3D Camera Ego-Motion from Sequences of Images”
  - Stylianos Tsigdinos, “Learning to Play Backgammon using Reinforcement Learning”
  - Emmanuel-Theofanis Chourdakis, “Rule Learning for Automated Music Composition through Inductive Logic Programming”
  - Iris Kyranou, “Sonar-based Obstacle Avoidance for Nao Robots”

- Diploma theses completed (committee member)
  - Meletios Stathis, “Development of a Physics-Based 3D Game”
  - Nikolaos Zervoudakis, “3D Game Development using a Rendering Engine”
- Agis Chartsias, “Link Prediction in Large Scale Social Networks using Hadoop”
- Konstantinos Makris, “SPARQL Rewriting for Query Mediation over Mapped Ontologies”
- Antonia Georgaraki, “OWL/SPARQL-based Mediator for Integration of OWL/RDF Information Sources”
- Stylianos Kokkalis, “Design and Architecture with Reconfigurable Logic of Data Structures for the Game of Go”
- Walid Soulakis (DPEM), “Reinforcement Learning for Robotic Walk”
- Student team projects

- Founder and co-leader of the robotic soccer team Kouretes (www.kouretes.gr), the first and only Greek team participating in the RoboCup competition. Kouretes 2010 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, 2009 to Aug. 31, 2010

Name: Katerina Mania
Rank: Assistant Professor
Years in rank: 4 years, 9 months
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Distributed Multimedia Information Systems and Applications (MUSIC)

A – Teaching

On maternity leave.

B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted
  - Published

- Publications in refereed conferences
C – Awards & Distinctions

D – Funded Projects

- Current projects (at the Technical University of Crete, Greece):
  - Internal TUC major equipment award: Immersive eye tracking system
  - Internal TUC project awarded (basic research call): Perceptual and cognitive impact of tracking latency in ecologically valid immersive synthetic simulations with applicability to remote virtual design and tele-operation towards efficient man-machine interaction

- Projects awarded:

- Project proposals submitted:
  - THALIS call, CYTA call, ICT EU FP7 ‘Socially Adaptable Believable Intelligent Robots’, ARXIMIDIS call

E – Professional service
• Associate Editor duties

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

• Conference Technical Program Committee service - membership
  ◦ Eurographics Symposium on Rendering 2011 (EGSR), Prague, June 2011
  ◦ Computational Aesthetics 2011, sponsored by Eurographics, Canada, Aug. 2011
  ◦ Computational Aesthetics 2010, sponsored by Eurographics, London, June 2010
  ◦ 3rd IEEE International Conference in Games and Virtual Worlds for Serious Applications, Greece, May 2011
  ◦ IEEE International Conference on Multimedia and Expo, ICME 2011, workshop on Human Factors in Multimedia, Barcelona, July 2011
  ◦ 2nd IEEE International Conference in Games and Virtual Worlds for Serious Applications, Portugal, March 2010
  ◦ 13th International conference on Virtual Systems and Multimedia (VSMM) 2009, Austria, Sept.2009
  ◦ IADIS Computer Graphics and Visualization 2010
  ◦ IADIS Web Virtual Reality and 3D Worlds 2010 (Web3DW 2010)
  ◦ SFHMMY 2010, 4th student conference of Electrical and Computer Engineers

• Conference - Program Organization (specify role)
  ◦ Program co-chair, ACM Siggraph Symposium on Applied Perception in Graphics and Visualization 2010 (APGV 2010), co-located with ACM SIGGRAPH 2010, July 2010, Los Angeles, USA

• Reviewing activities
F – Service to the Department and the School

On maternity leave.

G – Advising

- Active graduate students supervised
  - Graduate students completed (at the Technical University of Crete)
    - Aleksandros Zotos (M.Sc. candidate, year of enrollment Dec. 2007, completed October 2009)
  - Graduate students supervised (at the Technical University of Crete)
    - Aleksandros Zotos (Ph.D candidate, accepted for admission to PhD program, April 2009)
    - Giwrgos Papadakis (M.Sc. candidate, year of enrollment Dec. 2007)
    - Giannis Christodoulou (M.Sc. candidate, year of enrollment Sept. 2008)
    - Nick Zervoudakis (M.Sc. candidate, year of enrollment March 2010)
  - Ph.D. students supervised (at the University of Sussex)
    - Maria Sifniotis (Ph.D): Year of initial enrollment in Ph.D program: 2003, finishing write-up.
- Undergraduate students supervised (completed)
  - Kostas Kaggelidis (defended September 2010): ‘Networked Application for 2D and 3D Architectural Design based on SVG, X3D and AJAX Technologies’.
  - Nikolaos Fraggos (defended October 2010): ‘Open plan 3D game populated by opponents’.
  - Grigoris Nikiforakis ‘Development of a 3D Networked Game’ (defended November 2010)
- Undergraduate students supervised (to be completed)
  - Isidoros Tsouris ‘3D Computer Gaming using a Game Engine’
  - Kwestis Malkogiannis ‘3D Game Development with OptimizedOpponent Routes’

In many undergraduate 3-member project committees and some M.Sc. examination committees.
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Euripides G.M. Petrakis
Rank: Assoc. Professor
Years in rank: 6.5
Full-time or part-time: full-time
Division: Computer Science
Lab affiliation: Intelligent Systems Laboratory
(url: www.intelligence.tuc.gr)

A – Teaching

• Undergraduate courses taught
  o Data Structures and File Structures
  o Multimedia data management
  o Computer Vision

• Graduate courses taught
  o Special topics on Information Systems
  o Computer Vision

• Labs taught
  o Data Structures and Files Structures
  o Multimedia Data Management

• Curriculum & course development
  o New courses / labs developed
  • Lecture notes / slides developed
    ▪ Data Structures and File Structures (revised)
    ▪ Multimedia data management (revised)
  o Authored textbooks

B – Publications

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

  oAccepted:


  oPublished:


- Publications in refereed conferences

  oSubmitted: those published/appeared (see below)

  - 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.

  oAccepted:

  - 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.

  oPublished:

  - Pyrros Koletsis, **Euripides G.M. Petrakis**, "SIA: Semantic Image Annotation using Ontologies and Image Content Analysis", *International Conference on Image Analysis and Recognition (ICIAR’ 2010)*, Povoa
• Books and edited book chapters

C – Awards & Distinctions

D – Funded Projects

• Current projects:
  o “SOWL: Spatio-Temporal OWL for Reasoning and Querying over the Semantic Web” (2009-2011), Budget 15,000, Basic Research Funding from the Special Research Committee of TUC.
  o RT3S: “Real Time Simulation for Safer Vascular Stenting” (2010-2013), Funding Agency: FP7-STREP, Budget 4,980,000 euros, Budget for TUC 490,000 euros.
  o “POTrain: Positive Thinking Training”, Funding Agency: FP7-COMENIUS Lifelong Learning, Budget: 185,000 euros, Budget for TUC: 35,000 euros.
  o Project proposals submitted:
    o several (over 10) new project proposals have also been submitted in EU-FP7 (calls 1 - 6)

E – Professional service

• Conference Technical Program Committee service

• Conference Organization (specify role)

• Reviewing activities
  o Reviewer for IEEE Trans. on Knowledge and Data Engineering (IEEE TKDE), IEET Trans. On Pattern Analysis and Machine Intelligence (IEEE PAMI), ACM Trans. On Information Systems (ACM TOIS), Image and Vision Computing and
in many Conferences in the areas of Multimedia and Information Systems, Computer Vision.

**F – Service to the Department and the School**

- Departmental responsibilities
  - Laboratory Director, Intelligent Systems Laboritory, Department of Electronic and Computer engineering, Technical University of Crete.

**G – Advising**

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Sotiris Batsakis, Representing and Querying Spatio-temporal Information in the Semantic Web, PhD candidate (expected graduation date Dec 2011)
    - Angelos Hliaoutakis, Medical Information Systems, PhD Candidate.
    - Efthimios Drymonas, Ontology Construction from Text, PhD Candidate.
    - Evi Mavrogiannaki, Ontologies in medicine, MSc Student (expected graduation date May 2011)
    - Kostas Strvoskoufos, Spatio-Temporal Ontology Languages, MSc Student (expected graduation date Feb 2011)
  - PhD. And M.Sc. degrees awarded
    - Kalliope Zervanou, Post.Doct (PhD Univ. of Manchester, UK), Natural Language Processing, Text processing, Information Extraction.
    - Paraskevi Raftopoulou, Rewiring Peer Connections of Semantic Overlay Networks
    - Angelos Hliaoutakis, Medical Information Systems
    - Efthimios Drymonas, Ontology Construction from Text.

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Nikos Sepetas, “Cardinality Constraint Satisfaction in OWL 2.0 Spatio-Temporal Ontologies”.
    - Polyxeni Makri, “Handling Spatio-Temporal Ontologies in PROTEGE”,
    - Antonis Dimas, “Image Annotation using Ontologies”
    - Alexandros Preventis, “Representing N-Ary Relationships in OWL2.0”.
    - George Christodoulou, “Reasoning over Spatio-Temporal Information in PELLET”,
    - George Hatzigeorgakidis, “Handling Spatio-Temporal Information in Semantic Web Applications”
  - Diploma theses completed (supervisor)
    - Pyrros Koletsis, Image Annotation using Ontologies and Image Analysis.
Name: Vasilis Samoladas  
Rank: Assistant Professor  
Years in rank: 6  
Full-time or part-time: full-time  
Division: Informatics  
Lab affiliation: Software technology and network applications  

A – Teaching  

- Undergraduate courses taught  
  - Operating Systems  
  - Principles of Distributed Systems  
  - Multi-dimensional Data Processing  

- Graduate courses taught  
  - Principles of Distributed Systems  
  - Multi-dimensional Data Processing  

- Labs taught  
  - Operating Systems  
  - Principles of Distributed Systems  
  - Multi-dimensional Data Processing  

- Curriculum & course development  
  - New labs developed for:  
    - Operating Systems  
    - Distributed Systems  

B – Publications  

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

- Publications in refereed conferences  
  - Submitted: those published/appeared (see below)  
    - G. Tsatsanifos, V. Samoladas, Efficient Load-Balancing for Peer-to-Peer
Networks, P2P’10.

  - Accepted:

  - Published:

- Books and edited book chapters

- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - Innovation Center of Crete: Design and Implementation of a Virtual Incubator (23,000Euro)
  - Design and implementation of an interactive portal for tourism promotion, City of N. Kydonia (30,000Euro)

- Project proposals submitted:
  - Thales: Quantum Computers (PI. Elinas)
  - Thales: Computational Geometry (PI. Emiris)
  - Thales: Distributed Data Spaces (PI. Selis)
  - Cooperation: Intelligent Cost Estimation Software for Technical Projects (PI. Samoladas)

E – Professional service

- Conference Technical Program Committee service
  - ...

- Conference Organization (specify role)
  - Organizing Committee of FOSS4Edu (Chania 2010)

- Reviewing activities
  - reviews of several journal papers.

- Participation in Scientific Committee of Hellenic Open Source Software

F – Service to the Department and the School

- School-level responsibilities
  - Member of NOC Committee.
  - Member of Lab Computing Systems Committee.

- TUC Representative: Hellenic Open Source Software.

- TUC Officer for Grid Computing.
G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - George Hatzisymeon (PhD), 4th year
    - Christos Smaragdakis (MSc)
    - Mihalis Argyrioy (MSc)
    - Katerina Asimogloy (MSc)
  - PhD. And M.Sc. degrees awarded
    - Stergios Charalambakis (MSc), 3rd year

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Vourlakis Nikolaos
  - Diploma theses completed (supervisor)
    - Asimogloy Katerina
    - Vlahou Georgia
    - Katakis Kostas
Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Stavros Christodoulakis
Rank: Professor
Years in rank: 21
Full-time or part-time: Full-time
Division: Informatics
Lab affiliation: MUSIC Laboratory

A – Teaching

- Undergraduate courses taught
  - Data Bases
  - Web Applications
  - Human Computer Interaction

- Graduate courses taught
  - Web Applications
  - Human Computer Interaction

B – Publications

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

- Publications in refereed conferences
  - Submitted: those published/appeared (see below)
  - Accepted:
  - Published:
    - Makris, Gioldasis, Bikakis, Christodoulakis: “Ontology Mapping and
SPARQL Rewriting for Querying Federated RDF resources,” *Proc. ODBASE 2010*.

- Stavrakantonakis, Tsinaraki, Bikakis, Gioldasis, Christodoulakis: “Sparql2Xquery 2.0 Supporting Semantics Based Queries over XML Data,” *Proceedings SMAP 2010*.

- Books and edited book chapters

- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - pSkills: Programming Skills Development in Secondary Education by means of Modern Educational Programming Languages, EU.
  - NaturalEurope: Natural History & Environmental Cultural Heritage in European Digital Libraries for Education, EU.

- Project proposals submitted:

E – Professional service

- Conference Steering Board:
  - ECDL,
- Conference Technical Program Committee service:
  - ECDL, several others

F – Service to the Department and the School

- Departmental responsibilities
  - Director of the MUSIC Lab, Director of the Software Engineering lab.
  - School-level responsibilities
  - Member of the Scientific Board, Telecommunication Systems Institute, Technical University of Crete.
  - Member Department of Architecture Governing Committee, Technical University of Crete.
G – Advising

- Active graduate students supervised

- Ph.D. and M.Sc. students supervised
  - Yannis Kotopoulos (MSc)
  - Xenia Arapi (MSc)
  - Andreas Pitsiladis (MSc)
  - Manolis Mylonakis (MSc)
  - Marios Christoulakis (MSc)
  - Giorgos Stylianakis (MSc)
  - Kostas Makris (MSc)

- MSc. degree awarded
  - Giorgos Kotopoulos (MSc)

- Undergraduate students supervised

- Diploma theses in progress (supervisor)
  - Papachristoudis
  - Skevakis
  - Stavrakantonakis
  - Kalokyri
  - Mathioudakis
  - Kyfonidis

- Diploma theses completed (supervisor)
  - Panteli
  - Makris
  - Georgakaki
Systems Division

Faculty members

- Christodoulou Manolis
- Stavrouakis Petros
Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

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

A – Teaching

Προπτυχιακά
Theory and Applications of Automatic Control
Optimal Control

Μεταπτυχιακά
Neural Networks

B – Publications

- Books published

C – Awards & Distinctions

D – Funded Projects

E – Professional service

- Guest Editor for a special issue of the International Journal of Multimedia
  Information security.

- Associate Editor duties

  - China Communications Journal
  - International Satellite Systems and Networking
• Society Technical Committee duties
  ○ Founding Member of the IEEE Technical Committee on communication and information Security

• Reviewing activities
  ○ Reviewer of IEEE
  ○ Electronic Letters
  ○ International Journal of Communication Systems
  ○ Communications Journal IET
  ○ China Communications Journal

F – Service to the Department and the School

G – Advising
Electronics and Computer Architecture Division

Faculty members

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

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Costas Balas
Rank: Associate Professor
Years in rank: 8.5 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
  - New courses / labs developed
    - Five new Optoelectronics edu. Labs developed
  - Lecture notes / slides developed
  - Authored textbooks

B – Publications

- Publications in refereed journals
  - Submitted: those published/appeared (see below)
Accepted for publication in BJOG

- Accepted:
  - Accepted for publication in BJOG

- Published:

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

  - Accepted:

  - Published:

  - **Books and edited book chapters**
    - Costas Balas et al “Multi/Hyper-Spectral Imaging” in Handbook of Biomedical Optics text book, Taylor&Francis Bokks, Inc, USA, *submitted*

**C – Awards & Distinctions**

**D – Funded Projects**

- Project proposals submitted:
  - “OncoSeed Diagnostics: Biology of Circulating Tumour Cells, Distant Metastasis & Development of Liquid Biopsy Methods”. Funding source: «COOPERATION»-SUB-ACTION II: « Large Scale Cooperative Projects».
  - “In vivo Molecular Imaging of Epithelial Pre-Cancers based on Dynamic Optical Scattering Modeling” Heraklitos
  - Imaging system for assessing papillary response to tunable monochromatic light excitation. Funding source: TUC internal program for supporting graduate research.
  - Compact Mid Infrared Coherent Sources for Active Multispectral Imaging (COMIX) EU STREP
  - INstantaneous SPETral imaging methods and technologies for BIomedical diagnosis Theles II (coordinator)
  - Innovative terahertz and spectral imaging techniques for biomedicala applications, Theles II
E – Professional service

- Reviewing activities
  - Applied optics, GSRT expert/reviewer for the industrial R&D grant proposals

F – Service to the Department and the School

- Departmental responsibilities
  - 5th and 6th semester student advisor committee
- School-level responsibilities
  - Member of board of regents

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Tsapras Athanaxasios (PhD)
    - Papoutsoglou George (PhD)
    - Georgiou Nikos (MSc)
    - Epitropou George (MSc)
    - Kavadias Vasilis (MSc)
  - PhD. And M.Sc. degrees awarded

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Axilleas Xipolitos
    - Dimitris Illiou
    - Odysseas zografos
  - Diploma theses completed (supervisor)
    - Anastasopoulou Antigoni
    - Galaras Costas
    - Makridou Georgia
Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Matthias Bucher
Rank: Assistant Professor (tenure)
Years in rank: 6+1/2
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Electronics Laboratory

A – Teaching

- Undergraduate courses taught
  - ECE 503 – Design of CMOS Analog Integrated Circuits (Fall 2009)
  - ECE 311 – Electronics II (Spring 2010)

- Graduate courses taught
  - ECE 604 – Special Themes of Analog Integrated Circuit Design (Fall 2009)

- Labs taught
  - ECE 503 – Design of CMOS Analog Integrated Circuits (Fall 2009)
  - ECE 311 – Electronics II (Spring 2010)

- Curriculum & course development
  - Lecture notes/slides developed,
B – Publications

- Publications in refereed journals
  - Submitted:
  - Accepted-Published:

- Publications in refereed conferences

- International Workshop Presentations/Tutorial:

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - NANOsympraxis, Multigate MOSFET nanotransistors: compact models for current


- **Project proposals submitted:**
  - Synergasia, Greek Ministry of Development.
  - Thales, Greek Ministry of Education.

- **Development of Electronics Laboratory infrastructure:**
  - ADMOS Filter/switchbox for low frequency noise measurement.
  - Agilent 82357B USB/GPIB Interface
  - Agilent ADS & ICCAP software packages, Cadence IC & System.

### E – Professional service

- **Conference Technical Programme Committee service**
  - **TPC member, Int. Conf. on Mixed Design of Integrated Circuits and Systems (MIXDES) 2010.**
  - **TPC member, IEEE Workshop on Design and Diagnostics of Electronic Circuits and Systems (DDECS) 2010.**

- **Conference Organization**
  - **Workshop & Tutorials Chairman, European Solid-State Circuits Conference (ESSCIRC 2009), Athens, September 14-18, 2009.**
  - **Tutorial Organizer, “Nanoscale CMOS Analog Design from Devices to System”, M. Bucher, M. Kayal, G. Gielen, European Solid-State Circuits Conference (ESSCIRC 2009), Athens, September 14, 2009.**
  - **Workshop Organizer; “MOS-AK Meeting”, European Solid-State**
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*

Reviewing of Research Projects


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
  o Ph.D. students supervised (supervisor):
    ▪ Angelos Antonopoulous, Design of nanoscale RF CMOS transceivers, Enrollment: June 2008.
    ▪ Nikos Mavredakis, Noise in high-voltage MOSFETs (HVMOSFETs), Enrollment: July 2010.
  o M.Sc. theses completed (supervisor):
    ▪ Nikos Mavredakis, Characterization and modelling of low frequency noise in advanced CMOS technology, July 2010.
  o M.Sc. students supervised (supervisor):
    ▪ Nikos Makris, Design of RF CMOS voltage controlled oscillators (VCOs), Enrollment: Nov. 2006.

• Undergraduate students supervised
  o Diploma theses completed (supervisor):
    ▪ Theodora Tsironikou, Automated parameter extraction system for BSIM4 to EKV3 model, July 2010.
    ▪ Prodromos Prodromou, Development of a MOSFET benchmarking tool in Cadence, May 2010.
    ▪ George Diles, Study of transconductances in advanced CMOS technology, Jan. 2010.
    ▪ Athanasios Dimakos, Low voltage analog design techniques, Oct. 2009.
  o Diploma students (supervisor):
    ▪ George Volanis, Design of a low-voltage Sigma-Delta Analog-to-Digital Converter for wireless receiver.
    ▪ Andreas Bombos, Study of harmonic distortion in advanced CMOS.
    ▪ Apostoulos Tsivitis, Study of 1/f noise in MOS transistors.
    ▪ George Smaragdos, Design of integrated filters based on current-mode OPAMPs.  
    ▪ Tassos Grammatikos, CMOS varactor modeling. 
    ▪ Vassilis Mylonakis, Design of CMOS variable gain amplifier (VGA).
    ▪ George Kargakis, Analysis of zero-VT MOSFETs. 
    ▪ Apostolos Spanos, RF Noise in advanced CMOS. 
    ▪ Nicolas Gegios, RF CMOS modeling.
- Yannis Kyriakopoulos, Design automation of basic configurations of transistor amplifiers.
- Ilias Chlis, Study of subthreshold SRAM.

Diploma theses completed (committee member):

- Ifigenia Pologiorgi, Cartography of spatial variations in intensity of backscattering of radiation as a new criterion for the detection of epithelial neoplasia.
- George Vlassis, Modelling of a 20MW hybrid wind/hydroelectric system in Crete.
- George Pligoropoulos, Simulation and optimization of a hybrid photovoltaic system with hydrogen storage and fuel cells.
- Georgia Makridou, Hyperspectral microscopy and algorithms of spectral classification and cartography of chromatic oestrogen acceptors of breast cancer.
Technical University of Crete  
Department of Electronic & Computer Engineering  

Annual Activity Report  

For the period: September 1, 2009 to August 31, 2010  

Name: Apostolos Dollas  
Rank: Professor  
Years in rank: 9  

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 211 - 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 211, which I had completely re-written one year earlier on a different platform than the one previously used, introducing mandatory hands-on lab exercises with Xilinx Spartan FPGA’s.  

• Curriculum & course development  
  ▪ Lecture notes / slides developed: Revised the HRY 211 (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  

47/101
Accepted

Published


- **Publications in refereed conferences**
  - Accepted
    - Miltiadis Smerdis, Pavlos Malakonakis, Apostolos Dollas, “Carlothello: An FPGA Based Monte Carlo Othello Player”, Accepted as short paper at *The 2010 International Conference on Field-Programmable Technology (FPT ’10)* (accepted after review as a top-3 finalist in the 2010 Design Competition).
    - Pavlos Malakonakis, Euripides Sotiariades, **Apostolos Dollas**, “GE3: a Single Chip Client-Server Architecture for Golomb Ruler Derivation”, Accepted as short paper at *The 2010 International Conference on Field-Programmable Technology (FPT ’10)*.
  - Published (all papers fully refereed)

- **Books and edited book chapters**
C – Awards & Distinctions

- Fellowships, Visiting Professorships
- Invited Lectures
  - Keynote Speaker, Annual IEEE Computer Society Symposium on VLSI (ISVLSI), Lixouri, Greece, July 5-7, 2010, delivering a lecture on “Reconfigurable Architectures for Bioinformatics Applications”.
- International Competitions
  - Third place in the International Conference on Field Programmable Technology Design Competition (a Sudoku Solver up to dimension 15 running on actual XUP standardized hardware platforms), Sydney, Australia, Dec. 9-11, 2009.

D – Funded Projects

- Current projects:
  - 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 “IRAKLEITOS: Research Scholarships for TUC”, Program. TUC Budget 398,778 Euros. Under it is the sub-program “Structures for Reconfigurable Computing”, (PhD Thesis support for E. Sotiriades), Apostolos Dollas, PI, Program budget: 32,229 Euros (all budget is in TUC)

E – Professional service

- Conference Technical Program Committee service
  - Program Committee Member 18th IEEE Symposium on Field Programmable Custom Computing Machines (FCCM), Charlotte, USA, May 2-4, 2010.
  - 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, 2011.
♦ Program Committee Member, International Conference on Field Programmable Technology (FPT, IEEE Sponsored), Sydney, Australia, December 9-11, 2009.
♦ Program Committee Member, International Conference on Field Programmable Technology (FPT, IEEE Sponsored), Beijing, China, December 10-12, 2010.

- Member of the 3-member election recommendation committee and the board of electors for an Associate Professor at the Democretian University of Thrace.
- Member of the board of electors for an Associate Professor at the University of Athens.
- Member of the board of electors for an Associate Professor at the University of the Peloponness.
- Member for a tenure committee at the University of Cyprus (on-going process).
- Member of several election committees and recommendation committees and faculty elections at the Dept. of ECE of the Technical University of Crete.

- Reviewing activities
  o Several international conferences, including all in which I participate in the program committee and journals

F – Service to the Department and the School
- Departmental responsibilities
  o Faculty Advisor to the 1st semester students
  o Member, Undergraduate Studies Committee
  o Member of the Student Placement Committee, supervising the examination in the subject of Logic Design for graduates from other Departments who want to enroll at ECE.
  o 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
  o Participated actively in the large instrumentation proposal of Assistant Professors A. Bletsas, A. Deligiannakis and Y. Papaefstathiou.

- School-level responsibilities
  o 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).

G – Advising
- Active graduate students supervised
  o Ph.D. and M.Sc. students supervised (advisor, completed)
    ▪ (None)

  o Ph.D. and M.Sc. students supervised (advisor, in progress)
    ▪ Papademetriou, Kyprianos (PhD)
    ▪ Sotiriades, Euripides (PhD)
    ▪ Chrysos, Grigorios (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)
  - Mplemenos, George (MS)
  - Papadopoulos, Constantinos (MS)
  - Hatziparaskevas, George (MS)
  - Siskos, George Alexandros (MS)

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

- Undergraduate students supervised
  - Diploma theses in progress
    - Kouinis, Konstantinos
    - Koukousoulas, Pantelis
    - Gegios, Nikolaos
  - Diploma theses completed (supervisor)
    - Desarti, Athina
    - Lakka, Matina
    - Smerdis, Miltiadis
    - Kokkalis, Stylianos
    - Kottikas, Constantinos
    - Spanakis, Michael
    - Elias, Anargyros
    - Nikoloudakis, George
    - Vasilopoulos, Dimitrios
    - Georgiadis, Nikodemos
  - Diploma theses in progress (committee member)
    - Raptis, Grigoris
    - Andronikidis, George
  - Diploma theses completed (committee member)
    - Chrysanthou, Nafsika
    - Makris, Ioannis
    - Stefanatos, Kostas
    - Tsapeli, Fani
    - Ntortou, Eiranna
    - Founta, Ifigeneia
    - Markopoulos, Spyridon
- Tzanoudakis, Theodore
- Agadakos, Ioannis
- Bouris, Dimitrios
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Kostas Kalaitzakis
Rank: Professor
Years in rank: 7
Full-time or part-time: Full-time
Division: Electronics & Computer Architecture
Lab affiliation: Electric Circuits & Renewable Energy Sources Lab.

A – Teaching

• Undergraduate courses taught
  o HRY 402 - Electric Measurements and Sensors (7th semester)
  o HRY 212 – Electric Circuits Analysis (4th semester)

• Graduate courses taught
  o HRY 602 – Special topics on Electric Measurement Systems

• Labs taught
  o HRY 402 - Electric Measurements and Sensors (7th semester)
  o HRY 212 – Electric Circuits Analysis (4th semester)

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

B – Publications

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

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

- **Books and edited book chapters**

- **Patents**

**C – Awards & Distinctions**

**D – Funded Projects**

- **Current projects:**
  - Researcher in a project entitled "Positive-Energy Building thru Better Control Decisions (PEBBLE)", project number 248537, project coordinator Technical University of Crete, funded by EE in the framework FP7-ICT-2009.6.3: ICT FOR ENERGY EFFICIENCY, 2010-2012, total cost 2.4 M€, 500 k€ for the TUC.
  - 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 cost 15 k€.

- **Project proposals submitted:**
  - "Zero or Positive Energy Buildings", as PI, in the framework of THALIS, funded by the Greek Ministry of Education.
  - "Integrated Energy Planning in Tertiary Sector Buildings through Multi-objective Mathematical Programming", in the framework of THALIS, funded by the Greek Ministry of Education.
  - "Development of an Integrated Smart Solar Cell System", in the framework of THALIS, funded by the Greek Ministry of Education.

**E – Professional service**

**F – Service to the Department and the School**
G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
  - PhD. And M.Sc. degrees awarded

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - P. Kalodimas
    - H. Papaztavrou
    - G. Spyridakis
    - T. Mallisovas
    - K. Sfakianakis
    - T. Vasiloudis
    - J. Zoufios
    - A. Baryaba
    - G. Palolli
    - Τσόγκας
    - G. Dalaperas
    - A. Pafilis
    - P. Matzioros
  - Diploma theses completed (supervisor)
    - S. Founda
    - T. Dafoulis
    - P. Doriakis
    - A. Sfondouri
    - T. Mantzioros
    - K. Kagarakis
    - G. Manouras
Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Eftichios Koutroulis
Rank: Adjunct Lecturer
Years in rank: 1
Full-time or part-time: Part-time
Division: Electronics & Computer Architecture
Lab affiliation: Electronics Laboratory

A – Teaching

• Undergraduate courses taught
  o ACE 511 - VLSI and ASIC System Design (fall semester 2009)

• Labs taught
  o ACE 301 - Electronics II (spring semester 2010)

• Curriculum & course development
  o Lecture notes / slides developed:
    ▪ ACE 511 - VLSI and ASIC System Design (fall semester 2009)

B – Publications

• Publications in refereed journals
  o Submitted: same as published (see below)
  o Accepted: same as published (see below)
  o Published:

• Publications in refereed conferences
  o Submitted:
• Books and edited book chapters:
  ▪ K. Kalaitzakis, E. Koutroulis, “Electric Measurements and Sensors: 
    Principles & Design of the Electronic Measurement Systems” (in Greek), 

C – Awards & Distinctions

D – Funded Projects

• Project proposals submitted:
  o THALIS call

E – Professional service

• Reviewing activities
  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 26th Annual IEEE Applied Power Electronics Conference & Exposition
  o 17th IEEE International Conference on Electronics, Circuits and Systems
  o IEEE International Conference on Industrial Technology 2010 (ICIT 2010)
  o 36th Annual Conference of the IEEE Industrial Electronics Society (IECON 2010)

F – Service to the Department and the School

G – Advising

• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ Matina Lakka (Msc Student, 1st year in program)

• Undergraduate students supervised
  o Diploma theses in progress (supervisor)
    ▪ Christos Koukouzas
    ▪ Manos Papagiannakis
    ▪ Christos Lykas
    ▪ Nikos Petridis
    ▪ Ioannis Kalogiannakis
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Ioannis Papaefstathiou
Rank: Assistant Professor
Years in rank: 3
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 2009)
  - HPY 412 – Computer Architecture (Spring 2010)

- Graduate courses taught
  - HRY 501 – Design of Special Purpose (Spring 2010)

- Labs taught
  - HRY 401 – Embedded Systems Design (Fall 2009)
  - HPY 412 – Computer Architecture (Spring 2010)

- Curriculum & course development
  - New courses / labs developed: HRY 501 – Design of Special Purpose
  - Lecture notes / slides developed: HRY 412 Computer Architecture
  - Authored textbooks

B – Publications

- Publications in refereed journals
  - Accepted
o Published

• 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 Design Automation and Test in Europe (DATE 2011), March 14-18, Grenoble, France
    ▪ N. Chrysanthou, G. Chrysos, I. Papaefstathiou, “Parallel Accelerators For GlimmerHMM Bioinformatics Algorithm”, submitted to IEEE Design Automation and Test in Europe (DATE 2011), March 14-18, Grenoble, France
  o Accepted: same as published (see below) plus
  o Published
    ▪ K. Theocharoulis, C. Manifavas, I. Papaefstathiou, “Implementing Rainbow Tables in High-end FPGAs for Super-fast Password Cracking”, IEEE International Conference on Field Programmable Logic and Applications (FPL), 2010, Aug 31- Sept 2, Rome (Acceptance rate of full papers 23%)
    ▪ Dimitrios Meintanis and Ioannis Papaefstathiou “A Module Based, Partial Reconfigurable Design for Solving Sparse Linear Systems Over GF(2)”, The 2009 International Conference on Field-Programmable Technology, FPT
C – Awards & Distinctions

- Invited Keynote Speaker, IEEE International Conference on Cluster Computing 2010 (Cluster 2010), Heraklion, Crete, Greece, 20-24 September 2010
- Invited Keynote Speaker, 8th IEEE Workshop on Intelligent Solutions in Embedded Systems (8th WISES) Heraklion, Crete, Greece, 8-9 July 2010

D – Funded Projects

- Current projects:
  - European Research Grant EUREKA Programme, Title: Reconfigurable Ultra-Autonomous Novel Robots (RUNNER), December 2010
  - European Research Grant Capacities Programme (Research for the benefit of SMEs), Title: Increasing EU citizen security by utilising innovative intelligent signal processing systems for euro-coin validation and metal quality testing (SAFEMETAL) December 2010
  - General Secretariat for Research and Technology Grant, Collaboration Programme Title: Intelligent Vehicle Intercommunication System for Increased Security in Highways and Urban Environments September 2010

- Project proposals submitted:
  - Participating in “WSN DPCM”, FP7-ARTEMIS proposal, grade 52/60 will be funded from 1/04/11
  - Participating in “nShield”, FP7-ARTEMIS proposal, grade 52/60 will be funded from 1/04/11

E – Professional service

- Conference Technical Program Committee service
  - IEEE DATE 2010
  - IEEE FPL 2010
  - IEEE ICEAC 2010
  - IEEE PARMA 2010
  - UCHPC 2010
  - Several other smaller workshops

- Reviewing activities
  - Regular reviewer for Elsevier Microprocessors and Microsystems Journal,
  - Regular reviewer for IEEE Transactions on Circuits and Systems for Video Technology

F – Service to the Department and the School
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
    - Apostolos Perdikakis (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
    - K. Mountakis
    - S. Papaioannou
    - D. Tsiamasiotis
    - G. Raptis
    - M. Kalenteri

  - Diploma theses completed (supervisor)
    - I. Agadakos
    - N. Chrysanthou
    - K. Mountakis
    - T. Tzanakakis
    - G. Mpouris.
Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Dionisios Pnevmatikatos  
Rank: Professor  
Years in rank: 1  
Full-time or part-time: Full-time  
Division: Electronics and Computer Architecture  
Lab affiliation: Microprocessor and Hardware laboratory

A – Teaching

- Undergraduate courses taught
  1. HRY 201 – Digital Computers (Fall 2009)  
  2. HRY 311 – Computer Organization (Spring 2010)

- Graduate courses taught
  1. HRY 613 – Parallel and Distributed Computer Architecture (Spring 2010)

  - Labs taught
    1. HRY 201 – Digital Computers (Fall 2009)  
    2. HRY 411 – Computer Organization (Spring 2010)

  - Curriculum & course development
    1. New courses / labs developed
    2. Lecture notes / slides developed  
       Digital Computers (Update)  
       Computer Organization (Update)
    3. Authored textbooks

B – Publications

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

Published:


Publications in refereed conferences

Published:
- Giorgos Passas, Manolis Katevenis, Dionisios N. Pnevmatikatos, “A 128 x 128 x 24Gb/s Crossbar Interconnecting 128 Tiles in a Single Hop and Occupying 6% of Their Area”, International Symposium on Networks-on-Chips (NOCS) 2010, pp. 87-95.


C – Awards & Distinctions

D – Funded Projects
- Project proposals submitted:
Departmental Practical Training proposal

E – Professional service

- Conference Technical Program Committee service
  - Conference Technical Committee Member:
    - International Conference on Field Programmable Logic and Applications (FPL) 2010
    - International Conference on Embedded Computer Systems: Architectures, Modeling, and Simulation (IC-SAMOS) 2010
    - International Workshop on Rapid System Prototyping (RSP) 2010
    - IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-Soc) 2009
    - 28th IEEE International Conference On Computer Design (ICCD), 2010
    - 39th International Conference on Parallel Processing (ICPP), 2010
  - Workshop Technical Committee Member:
    - HIPEAC-RC (Reconfigurable Computing) 2010
    - HIPEAC- Interconnection Network Architectures: On-Chip, Multi-Chip (INA-OCMC) 2010
    - 8th IEEE Workshop on Intelligent Solutions in Embedded Systems (WISES 2010)
- Conference Organization (specify role)
  - Program Track Chair:
    - Design and Test Europe (DATE), Chair, Architecture and Microarchitecture Track, 2010
- Reviewing activities
  - Journal Reviewer:
    - ACM TECS
    - Computer Architecture Letters
    - IEEE TVLSI
  - Conference Reviewer:
    - The 43rd Annual IEEE/ACM International Symposium On Microarchitecture (MICRO), 2010

F – Service to the Department and the School

- Departmental responsibilities
  - Department Co-Chair
  - Director, Microprocessor and Hardware (MHL) Laboratory
  - Undergraduate Program Committee Member
  - Graduate Program Committee Member
  - Responsible for the Department-wide practical training project

- School-level responsibilities
  - University Senate (Chairman replacement)
  - University Disciplinary committee
  - University Graduate committee
Active graduate students supervised
- Ph.D. and M.Sc. students supervised
  - G. Kornaros Ph.D.
  - I. Mavroidis Ph.D.
  - S. Koidis M.Sc.
- PhD. And M.Sc. degrees awarded
- Diploma theses completed (committee member)

Undergraduate students supervised
- Diploma theses in progress (supervisor)
  - Πέτσα Αικατερίνη
  - Ανδρονικίδης Γεώργιος
- Diploma theses completed (supervisor)
  - Μαρκόπουλος Σπυρίδων
  - Σιναπίδης Ευάγγελος
  - Τρουλλινός Μιχαήλ
- Diploma theses completed (supervisor)
  - Πέτσα Αικατερίνη
  - Ανδρονικίδης Γεώργιος
  - Μαρκόπουλος Σπυρίδων
  - Σιναπίδης Ευάγγελος
  - Τρουλλινός Μιχαήλ
- Diploma theses completed (committee member)
  - Γεωργιάδης Νικόδημος
  - Βασιλόπουλος Δημήτριος
  - Ηλίας Ανάργυρος
  - Κόκκαλης Στυλιανός
  - Ντόρτου Ειρήνη
  - Σμέρδης Μιλτιάδης
  - Χρυσάνθου Ναυσικά
  - Καρτσωνάκης Ιωάννης
  - Ράπτης Γρηγόριος
  - Λάκκα Ματίνα
  - Στεφανάτος Κωνσταντίνος
  - Σπανάκης Εμμανουήλ
  - Νικολουδάκης Γεώργιος
Annual Activity Report

For the period: 1-9-2009 to 31-8-2010

Name: Stavrakakis George
Rank: Professor
Years in rank: 15
Full-time or part-time: Full-time
Division: Electronic and Computer Architecture
Lab affiliation: Electric Circuits and Renewable Energy Sources

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)
  - Authored textbooks: None

B – Publications

- Publications in refereed journals
  - Published:

- Publications in refereed conferences
Published:


- Books and edited book chapters
- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:

E – Professional service

- Society Technical Committee duties
  - International Committee of Electrical Machines- ICEM

- Reviewing activities
  - Journal of Intelligent and Robotic Systems.
IEEE Transactions on Energy Conversion.

- Participation in National Committees (e.g., EΔΕΤ):
  - Committee of the Prefecture of Crete for the Energy Planning of Crete.

F – Service to the Department and the School

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Tripolitakis Evagelos
    - Nikolaou Triantafylia
    - Sergaki Eleftheria
    - Afentakis Nikolaos
    - Vassalos Gerasimos
    - Dougali Evaggelia
    - Sytzanaki Athina
    - Gobakis Konstantinos
    - Panagiwtidou Natalia
    - Limneos Georgios
    - Ellinakis Epameinondas
  - PhD. And M.Sc. degrees awarded
    - Nikolaou Triantafylia
    - Vassalos Gerasimos
    - Ellinakis Epaminondas
    - Dougali Evagelia

- Undergraduate students supervised
  - Diploma theses in progress (supervisor): 15
  - Diploma theses completed (supervisor): 9
  - Diploma theses in progress (committee member): 11
  - Diploma theses completed (committee member): 8
Telecommunications Division

Faculty members

- Bletsas Aggelos
- Digalakis Vassilios
- Zervakis Michail
- Karystinos George
- Koutsakis Polychronis
- Liavas Athanasios
- Paterakis Michail
- Potamianos Alexandros
- Sidiropoulos Nikolaos
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Aggelos Bletsas
Rank: Assistant Professor
Years in rank: 1 (one)
Full-time or part-time: Full-time
Division: Telecom
Lab affiliation: Telecom Laboratory

A – Teaching

• Undergraduate courses taught
  o TEL411 Computer Networks II (Spring 2010).
  o TEL404 Analysis and Design (Synthesis) of Telecom Modules (Spring 2010).

• Graduate courses taught
  o TEL603 Detection and Estimation Theory (Fall 2009).
    [23 2-hour lectures + 5 bi-weekly psets + midterm + final].

• Labs taught
  o TEL404 Analysis and Design (Synthesis) of Telecom Modules.
  o TEL411 Computer Networks II.

• Curriculum & course development
  o Low-cost hardware developed for TEL 404 Laboratory
  o New courses / labs developed
    TEL404 Analysis and Design (Synthesis) of Telecom Modules.
    o Lecture notes / slides developed
    TEL411 Computer Networks II.
    TEL404 Analysis and Design (Synthesis) of Telecom Modules.
    TEL603 Detection and Estimation Theory.

B – Publications

• Publications in refereed journals
  o Submitted: those published/appeared (see below)
    • A. Bletsas, A.G. Dimitriou and J.N. Sahalos, "Improving Backscatter Radio


- A.G. Dimitriou, **A. Bletsas** and J.N. Sahalos, "Improvements of UHF RFID Coverage with Commodity Hardware", submitted for publication, August 2010.

  - Accepted:

  - Published:

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


Accepted:


Published:


Affidavit submitted to USPTO on winter 2010, for patent application Ser. No. 10/367,616 "Method and Apparatus for Direct Fabrication of Nanostructures", originally filed in 2/14/2003 through MIT.

C – Awards & Distinctions

Conference paper "Simple, Zero-Feedback, Collaborative Beamforming for Emergency Radio", in IEEE International Symposium on Wireless Communication Systems (ISWCS), September 2009, Siena, Italy, was selected as one of the five best conference papers. Journal version was fast-tracked to ACM/Springer Mobile Networks and Applications (MONET).

D – Funded Projects

- Current projects:
  - “RFID in Healthcare”, Cyprus Research Promotion Foundation.

- Project proposals submitted:
  - Three proposals submitted to GSRT in the context of “Thalis” program (program eventually postponed).
  - Two proposals submitted to GSRT in the context of “Cooperation” program, 1.5MEuro proposals, ICT section (program eventually funded only two (2) other proposals nationwide).
  - One FP7 proposal submitted (as PI).

E – Professional service

- Conference Technical Program Committee service
  - IEEE VTC 2010 – Fall, Cognitive Radio and Cooperative Communication Track.

- Reviewing activities
  - Reviewed several papers for major IEEE Conferences and class A IEEE Transactions (e.g. reviews were provided for IEEE Transactions on Wireless Communications, IEEE Transactions on Communications, IEEE Transactions on Information Theory and IEEE Transactions on Networking).

F – Service to the Department and the School

- Departmental responsibilities
  - Member of the team proposal which was submitted and eventually funded by TUC, regarding major teaching and research instrument infrastructure ("Major instruments
2009-2010” call by TUC).
- Member of two undergraduate study committees that advised Department Chair on course material.
- Departmental substitute member in TUC library committee.

- School-level responsibilities
  - Chairman of the selection committee regarding new furniture, for two TUC departments (ECE and Sciences). Selection process required assessment of 78 items from 6 different suppliers and absorbed (disproportionally) significant amount of time.

G – Advising

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Eleftherios Kampianakis, “Remotely Programmable Wireless Network for Research and Sensing Applications”.
    - Manolis Alibertis, “Community RF Sensing”.
    - Konstadinos Tountas, “Networked GUI for RFID Infrastructure”.
Annual Activity Report

For the period: September 1, 2009 to August 31, 2010

Name: Vassilis Digalakis
Rank: Full
Years in rank: 10
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information & Computer Networks Lab

A – Teaching

- Undergraduate courses taught
  - Introduction to Speech Processing
  - Probabilities and Random Signals (with A. Potamianos)

- Graduate courses taught
  - Advanced topics in speech processing

B – Publications

- Publications in refereed conferences
  - Published

C – Awards & Distinctions

D – Funding

- Proposals submitted as Coordinator:
  - “Innovative integrated information system for medical appointments”, submitted to GSRT Cooperation call.
  - EPS-PHESTOC, “Development of an Environment for Processing and Studying of Pediatric HEart Sounds as a Screening TOol for heart disease in Children”, submitted to
Thales Call (Pending Decision).


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
  ◦ Member, Undergraduate studies committee

• Director, Telecommunication Systems Institute of Crete (TSI)

  Activities this year included:
  ◦ Internal Evaluation for TSI
  ◦ Adaptation of TSI to the new legal framework of Research Institutes
  ◦ TSI Proposal under the call “Research & Development Infrastructure”
  ◦ Submission of 24 research proposals by the department faculty members, out of which 13 were funded

G – Advising

• Graduate students defended
  ▪ Orfeas Tsergoulas, MSc - awarded 10/2009
  ▪ Pavlos Papadopoulos, MSc - awarded 12/2009

• Active graduate students supervised
  ▪ Dimitris Oikonomidis, PhD

• Undergraduate students supervised
  ▪ Alexandros Georgogiannis
  ▪ Michalis Tsinas
  ▪ Kostas Spiliotis
  ▪ Kostas Tsiakas
  ▪ George Fragiadakis
Annual Activity Report

For the period: Sept 1, 2009 to Aug 31, 2010

Name: Michalis Zervakis
Rank: Professor
Years in rank: 10
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

B – Publications

• Publications in refereed journals
  ▪ Submitted: those published/appeared (see below)
    ▪ M. Zervakis, K. Michalopoulos, V. Iordanidou and V. Sakkalis, "Intertrial
      Coherence and Causal Interaction among Independent EEG Components", Journal
      of Neuroscience Methods (under second revision).
    ▪ I.N. Dimou, I. Tsougos, E. Tsolaki, E. Kousi, E. Kapsalaki, K. Theodorou, M.
      Kounelakis and M. Zervakis, “Brain tumor classification using 3T MRS spectra and
paired SVM kernels,” *IEEE Transactions on Information Technology in Biomedicine*, 2010 (Under second review)


- Accepted:

- Published


- Giakos G C., Paturi S. A., Valluru K., Bathini P., Adya V., Sukumar S., Ambadipudi K., Mandadi B., Becker M., Athawale, S., Farajipour P., Marotta S.,


- **Publications in refereed conferences**
  - Submitted: those published/appeared (see below)
  - Published:
    - A. Roniotis, K. Marias, V. Sakkalis, I. Karatzanis, and M. Zervakis " The mathematical path to develop a heterogeneous, anisotropic and 3-dimensional glioma model using Finite Differences", Information Technology Applications in Biomedicine (IEEE-ITAB 2009), Larnaca, Cyprus, 2009
    - M.G. Kounelakis, M.E. Zervakis, G.J. Postma, L.M.C. Buydens, A. Heerschap and X. Kotsiakis, Validation of MRS metabolic markers in the classification of brain gliomas and their correlation to energy metabolism, 12th Mediterranean Conference on Medical and Biological Engineering and Computing (MEDICON), Chalkidiki, 27-30 May 2010 (Published)
    - V. Sakkalis, V. Tsaiaras, M. Zervakis, and I. Tollis, "EEG Biomarker identification
using Graph Theoretic concepts", International Conference on Biomedical Data & Knowledge Mining: Towards Biomarker Discovery, Chania, Greece, July 7-9, 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


- Books and edited book chapters

- Patents: none

C – Awards & Distinctions

D – Funded Projects

- TEMPUS IV project tilted Curricula Reformation & Harmonisation in the Field of Biomedical Engineering (CRH-BME Tempus Project N° 144537-TEMPUS-2008-GR-JPCR, 2009-2012.

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

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

- In Negotiations GSRT Cooperation Programme, Title: Οστεοαρθρίτιδα: ολοκληρωμένη Συστηματική ανάλυση γιαστοχευμένη βιολογική θεραπεία
Project proposals submitted:
- During the Calls of ICT and Health participated in the submission of four STREPs;

E – Professional service

- Associate Editor duties
- Society Technical Committee duties
  - Session Chair ITAB 2009, IST-10 (International Conference on Imaging Science and technologies) and MEDICON 2010
  - International Programme Committee for ITAB 2009, IST 2010
- Conference Technical Program Committee service
- Conference Organization (specify role)
- Reviewing activities:
- Participation in National Committees (e.g., EΔET)
- Other
  o External reviewer for two PhD thesis from University of Thrace, one from University of Crete, one 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
- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Ioannis Dimou, PhD student
    - Michalis Kounelakis, PhD student
    - George Manikis, PhD student
    - Alexandros Roniotis, PhD Student
    - Kostantina Moirogiorgou, MASc student
    - George Livanos, MASc student
    - Kostas Michalopoulos, MASc student
  1. PhD. And M.Sc. degrees awarded
  1. Vanessa Margariti
Annual Activity Report

For the period: Sept. 1, 2009 to Aug. 31, 2010

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

A – Teaching

- Undergraduate courses taught
  - TEL 201 – Signals and Systems (Fall 2009)
  - TEL 412 – Information Theory and Coding (Spring 2010)

- Graduate courses taught
  - TEL 611 – Coding Theory (Spring 2010)

- Labs taught
  - TEL 201 – Signals and Systems Lab (Fall 2009)

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

B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted
  - Published
    - G. N. Karystinos and A. P. Liavas, “Efficient computation of the binary

- **Publications in refereed conferences**
  - Submitted: those accepted (see below), plus
  - Accepted:
  - Published

- **Books and edited book chapters**

- **Patents**

**C – Awards & Distinctions**

**D – Funded Projects**

- **Current projects**
  - Participated in FP6 FET project “CoopCom,” led by Prof. A. P. Liavas.

- **Project proposals submitted**

**E – Professional service**

- **Associate Editor duties**

- **Society Technical Committee duties**

- **Conference Technical Program Committee service**
IEEE International Conference on Communications (ICC) 2010 - Wireless Communications Symposium.

- Conference Organization (specify role)

- Reviewing activities
  - Reviewer for journals
    - IEEE Transactions on Information Theory
    - IEEE Transactions on Communications
    - IEEE Transactions on Wireless Communications
    - IEEE Transactions on Signal Processing
  - Reviewer for conferences
    - IEEE GLOBECOM 2010
    - IEEE VTC 2010 (Fall)
    - IEEE ISIT 2010
    - IEEE ICC 2010
  - Reviewer for books

F – Service to the Department and the School

- Departmental responsibilities
  - Organized the 2009-2010 Telecommunications Division Seminar Series, Department of ECE, Technical University of Crete.
  - Member of the Graduate Studies Committee, Department of ECE, Technical University of Crete, Sept. 2009 - Aug. 2010.

- School-level responsibilities

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Georgina Abou-Elkheir, “Finite-feedback beamforming under uniform transmit antenna power requirements with polynomial complexity,” M.Sc. student.
  - Ph.D. and M.Sc. degrees awarded

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Panayiotis Markopoulos, “Maximum-likelihood noncoherent OSTBC MPSK detection.”
    - Alexandros Sklikas, “An algorithm with complexity \( O(N^3 \log N) \) for rank-4 quadratic form maximization with a binary vector.”
    - Nikos Tsagkarakis, “Design and decoding of polar codes.”
  - Diploma theses completed (supervisor)
Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Polychronis Koutsakis
Rank: Assistant Professor (tenured track)
Years in rank: 1.5 (in TUC), 4 (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
  - Communication Network Protocols
- Labs taught
- Curriculum & course development
- New courses / labs developed
- Lecture notes / slides developed: Slides for both undergraduate courses that I taught
- Authored textbooks

B – Publications

Publications in refereed journals

- Submitted: those published/appeared (see below)
  - L. Qiao and P. Koutsakis, “Adaptive Bandwidth Reservation and Scheduling for Efficient

- **Accepted:**

- **Published:**

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

- Books and edited book chapters

- Patents

**C – Awards & Distinctions**

**D – Funded Projects**

Current projects:
*January 2010- December 2010*, Principal Investigator, Research grant from the Technical University of Crete: “Traffic control and resource allocation for wireless cellular networks”, 5000 € 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:

**E – Professional service**

- **Associate Editor duties**
  - Computer Communications Journal (Elsevier)
  - the International Journal on Advances in Networks and Services, published by IARIA (International Academy, Research and Industry Association).
  - the International Journal on Advances in Telecommunications (published by IARIA).
  - the Journal of Convergence (published by FTRA)

- **Society Technical Committee duties**
  - Voting Member of the IEEE Multimedia Communications Technical Committee (MMTC)

- **Conference Technical Program Committee service**
  - 12th Communications and Networking Simulation Symposium (CNS’09)
  - 10th ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD) 2009
  - 4th International Conference on Pervasive Computing and Applications (ICPCA 09)
  - 2nd IEEE Workshop on Mobile Video Delivery (MoViD 2009, in conjunction with IEEE Infocom 2009)
  - 18th IEEE International Conference on Computer Communication and Networks (ICCCN) 2009 – Network Algorithms and Performance Evaluation Track
  - Workshop on Advanced Wireless Broadband Networks (AWBN) 2009 (in conjunction with MobiQuitous’09)
  - 4th International Conference on Access Networks (AccessNets 2009)
  - IEEE Conference on Local Computer Networks (LCN) 2009
  - 2nd International Conference on Computer Science and its Applications (CSA 2009)
  - 7th ACIS International Conference on Software Engineering Research, Management and Applications (SERA 2009)
  - 1st International Conference on Creative Content Technologies (CONTENT 2009)
  - IEEE GLOBECOM 2009 Symposium on Wireless Communications
  - IEEE CCNC 2010 – Short Papers Session
  - 9th International Conference on Networks (ICN 2010)
  - 25th Queen's Biennial Symposium on Communications (QBSC 2010)
  - 5th Annual International Wireless Internet Conference (WICON 2010)
  - 8th IEEE International Conference on Pervasive Computing and Communications (PerCom) 2010
  - IEEE ICC 2010 Wireless and Mobile Networking Symposium

- **Conference Organization (specify role)**

- **Reviewing activities**
  - IEEE Transactions on Mobile Computing
  - IEEE Transactions on Broadcasting
  - IEEE Transactions on Circuits and Systems for Video Technology
  - ACM Wireless Networks Journal
Performance Evaluation Journal (Elsevier Science Publisher)
Wireless Personal Communications Journal (Springer Publ.)
Computer Networks Journal (Elsevier Science Publisher)
Journal of Network and Computer Applications (Elsevier Publ.)
Simulation Modelling Practice and Theory (Elsevier Publ.)
EURASIP Journal on Wireless Communications and Networking (Hindawi Publ.)
International Journal of Communication Systems (Wiley Publ.)

F – Service to the Department and the School

- Departmental responsibilities
  - Substitute Member of the undergraduate studies committee
- School-level responsibilities

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Ph.D. And M.Sc. degrees awarded

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Ioannis Sotiropoulos, “Call Admission Control for Multimedia Traffic Transmission over Wireless Cellular Networks”

Diploma theses completed (supervisor)
Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Athanasios P. Liavas
Rank: Professor
Years in rank: 1
Full-time or part-time: Full-time
Division: Telecommunications Division
Lab affiliation: Telecommunications Lab

A – Teaching

- Undergraduate courses taught
  - Wireless Communications
  - Telecommunications Systems II

- Labs taught
  - Wireless Communications
  - Telecommunications Systems II

- Curriculum & course development
  - Lecture notes / slides developed: Notes “Telecommunications Systems II”

B – Publications

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

  - Published:
C – Awards & Distinctions

D – Funded Projects

E – Professional service

- Society Technical Committee duties
- Conference Technical Program Committee service
  - SPAWC 2010.
- Reviewing activities

F – Service to the Department and the School

- Departmental responsibilities
  - Department Chair
- School-level responsibilities
  - Senate Member

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - E. Matigakis (2009--)
    - A. Balatsoukas-Stimming (2010--)
  - Ph.D. And M.Sc. degrees awarded
    - D. Tsipouridou PhD (2006-2010)
- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Matzakos Panagiotis
    - Alexiou Evaggelos
    - Georgiadou Despoina
  - Diploma theses completed (supervisor)
    - Fidanis Ioannis
    - Sklivanitis Georgios
    - Alexios Balatsoukas-Stimming
Annual Activity Report

For the period: September 1, 2009 to August 31, 2010

Name: Michael Paterakis
Rank: Professor
Years in rank: 11
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information and Computer Networks Laboratory

A – Teaching

Exemption, due to University administrative duties (University Vice-Rector responsible for Academic Affairs and Personnel).

D – Funded Projects

• Current projects:


E – Professional service

• April 2004 – April 2007 and April 2007 – April 2010: Member of the Executive Board, Greek Universities Network (GUnet), a not for profit company founded by all the Greek Academic Institutions.
F – Service to the Department and the School

- School-level responsibilities
  - Member of the University Senate, 2005 – 2010, (University Vice-Rector)
  - Associate Chairman of the Board, 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.
  - Member of the Board, Telecommunication Systems Research Institute (T.S.I.), Technical University of Crete.
Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Alexandros Potamianos
Rank: Associate Professor
Years in rank: 7+1/2
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Speech and Dialogue Group

A – Teaching

- Undergraduate courses taught
  - TEL 313 – Audio and Music Processing
  - TEL 303 – Statistical Modeling and Pattern Recognition
  - TEL 211 – Probability and Random Processes (with V. Digalakis)

- Graduate courses taught
  
  J. Curriculum & course development

  1. Course material for the new course TEL 313
     1. Notes
     2. Presentations
     3. Handouts
     4. Labs
     5. Projects

B – Publications

- Publications in refereed journals
  
  - Submitted

Accept


Published


Publications in refereed conferences


Submitted/Accepted:

C – Awards & Distinctions

- Elevated to Senior Member IEEE

D – Funded Projects

- Current projects (Principal Investigator):

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

- Project proposals submitted:
  - BabyExp, "Acquiring Commonsense Knowledge Like Children Do", EU-IST FP7
  - CogniCine, "Multimodal cognitive and computational models for attention and saliency dynamics", EU-IST FP7

E – Professional service

- Editorial Board
  - Computer Speech and Language
  - Journal on Multimodal User Interfaces
- Member of the IEEE Speech Technical Committee
- Reviewing activities

F – Service to the Department and the School

- School-level responsibilities
  - Alternate representative of Dept. of ECE to ELKE
G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Manolis Perakakis (Ph.D.), 2004-
    - Ilias Iosif (Ph.D.), 2007-
    - Ioannis Klasinas (Ph.D.) (co-supervised with Dr. Daoudi), IRIT-France, 2008-
    - Theodosis Moschopoulos (M.Sc.), 2008-
    - Nikos Malandrakis (M.Sc.), 2008-
    - Maria Giannoudaki (M.Sc.), 2008-
    - Valia Kouloumenta (M.Sc.), 2010-
  - Ph.D. degrees awarded
    - Pirros Tsiaikoulis (Ph.D.) (co-supervised with Prof. Karagiannis), Natl. Tech. Univ. of Athens, 2010

- M.Sc. degrees awarded
  - Spyros Dimopoulos (M.Sc.), 2010

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Giorgos Evgeniadis
    - Nikos Xirouchakis
    - Stamatis Kourpas
  - Diploma theses completed (supervisor)
    - Vasiliki Kouloumenta
    - Afroditi Maragouli
    - Fani Tsapeli
    - Panagiotis Keramidas
    - Stylianos Mamas
Annual Activity Report

For the period: Sep. 1, 2009 to Aug. 31, 2010

Name: Nikos Sidiropoulos
Rank: Professor
Years in rank: 8+1/2
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught
  - Telecommunication Systems I (Fall 2009)
  - Statistical Signal Processing for Communications (Spring 2010)

- Graduate courses taught
  - Convex Optimization (Spring 2010)

  - Labs taught
    - TEL 301 – Telecommunication Systems I Lab (Fall 2009)

      - Curriculum & course development
        1. New courses / labs developed
        2. Lecture notes / slides developed
        3. Authored textbooks

B – Publications

- Publications in refereed journals
  - Submitted

- Accepted

- Published

- Publications in refereed conferences
  - Submitted: same as published (see below)
  - Accepted: same as published (see below)
  - Published
Books and edited book chapters
Patents

C – Awards & Distinctions

SPAWC 2010 paper with Dimitris Evaggelinas was short-listed for best student paper award.

D – Funded Projects

Current projects:

Joint Transceiver Optimization and Scheduling / Admission Control in Wireless Networks, ERO, PI: N.D. Sidiropoulos. Funding level: 20K €.
Participant in FP project N-CRAVE (PI: L. Tassiulas)

Project proposals submitted:

NOPTILUS FP7 IP (funded; will start 04/2011)
Submitted FET targeted research proposal on Brain-Inspired ICT (not funded)
Submitted two proposals under the «ΣΥΝΕΡΓΑΣΙΑ» program (not funded)
Submitted one and participated in two other proposals under the “THALIS” program (pending)

E – Professional service

Associate Editor duties
Member of the Editorial Board, *IEEE Signal Processing Magazine* (Jan. 2009 -)
Associate Editor, Elsevier *Signal Processing* (Jan. 2009 -)

Society Technical Committee duties

Conference Technical Program Committee service
IEEE ICASSP 2010
IEEE CAMSAP 2009
SIAM TDA 2010

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

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
    ▪ Dimitris Evaggelinakis (M.Sc.). Year of initial enrollment in program: 2007.
    ▪ Ioannis Mitliagas (M.Sc.). Year of initial enrollment in program: 2008.
    ▪ Evaggelos Papalexakis (M.Sc.). Year of initial enrollment in program: 2010.
  o PhD. And M.Sc. degrees awarded
    ▪ Dimitris Evaggelinakis, M.Sc., July 2010
    ▪ Ioannis Mitliagas, M.Sc., July 2010

• Undergraduate students supervised
  o Diploma theses in progress (supervisor)
    ▪ Ioannis Sarris, “Social network analysis using multi-dimensional scaling”.
    ▪ Konstantinos Apostolou, “Crosstalk onset detection and rate back-off in xDSL”.
  o Diploma theses completed (supervisor)