Annual Activity Report

From Sep. 1, 2008 to Aug. 31, 2009
Chania, Crete
Dec. 10, 2009
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 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 always 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 fourth AAR, covering the period from Sep. 1, 2007 to Aug. 31, 2008. It is our hope that the Annual Activity Reports document the results from our research efforts, and help improve the quality of our Department. Your feedback is most welcome.
Computer Science Division

Faculty members

- Garofalakis Minos
- Deligiannakis Antonios
- Lagoudakis Michail
- Mania Ekaterini
- Petrakis Euripides
- Samoladas Vassilios
- Christodoulakis Stavros
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Minos Garofalakis
Rank: Professor
Years in rank: 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
  - ΠΛΗ-401: Αλγόριθμοι και Πολυπλοκότητα
  - ΠΛΗ-411: Προχωρημένα Θέματα Βάσεων Δεδομένων

- Graduate courses taught
  - ΠΛΗ-627: Προσεγγιστικές Μέθοδοι για Μεγάλες Βάσεις και Ροές Δεδομένων

- Curriculum & course development
  - New courses / labs developed
    ΠΛΗ-411, ΠΛΗ-627
  - Lecture notes / slides developed
    Διαφάνειες για τα μαθήματα ΠΛΗ-401, ΠΛΗ-422, ΠΛΗ-627

B – Publications

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

o Accepted:
  ▪ Graham Cormode and **Minos Garofalakis**, "Histograms and Wavelets on Probabilistic Data", *IEEE Transactions on Knowledge and Data Engineering*, 2010 (“Best of ICDE’2009” Special Issue).

o Published:

- Publications in refereed conferences
  o Submitted: those published/appeared (see below)
    ▪ Daisy Zhe Wang, Michael J. Franklin, **Minos Garofalakis**, and Joseph M. Hellerstein. "Querying Probabilistic Information Extraction"
    ▪ Vibhhor Rastogi, Nilesh Dalvi, and **Minos Garofalakis**. “Large Scale Collective Entity Matching”
  o Accepted:
  o Published:
    ▪ Ashwin Machanavajjhala, Erik Vee, **Minos Garofalakis**, and Jayavel Shanmugasundaram. "Scalable Ranked
Books and edited book chapters


Patents

- **GRANTED**

- **FILED**
C – Awards & Distinctions

- **Best Paper Award**, 25th *IEEE International Conference on Data Engineering (ICDE’2009)*, Shanghai, China, March 2009.
- ACM Senior Member, April 2009.

D – Funded Projects

- Current projects:
  - Fellow & Scientist in Charge for “HeisenData: Towards a Next-Generation Uncertain-Data Management System”, FP7 Marie-Curie International Re-integration Grant (100.000 Euros, 2010-2014)

- Project proposals submitted:
  - 2 FP7 STREP proposals, 2 προτάσεις στο πρόγραμμα «Συνεργασία» (ITET)

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)
  - Proceedings of the VLDB Endowment: Review Board Member (August 2008 -- present)

- Society Technical Committee duties

- Conference Technical Program Committee service

- Conference Organization (specify role)
  - 9th SIAM International Conference on Data Mining (SDM’2009), Sparks, Nevada: Program Area Chair (Data Stream Mining)

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

- Departmental responsibilities
- School-level responsibilities
  - Μέλος Διοικητικού Συμβουλίου της Εταιρείας Αξιοποίησης Περιουσίας και Τεχνολογικού Πάρκου του Πολυτεχνείου Κρήτης (Μάιος 2009 – παρόν)
  - Μέλος της Επιτροπής Σχεδιασμού Ανάπτυξης Πολυτεχνείου Κρήτης (Ιούλιος 2009 – Οκτώβριος 2009)

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)
  - PhD. And M.Sc. degrees awarded
- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - K. Kalantzaki,
    - A. Nydriotis
    - A. Chartsias
    - G. Hristopoulos
    - L. Papageorgiou)
  - Diploma theses completed (supervisor)
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Antonios Deligiannakis
Rank: Assistant Professor
Years in rank: 2
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
    Comp 506: Data Processing and Handling in Sensor Networks
    Comp 626: Data Processing and Handling in Sensor Networks
    Comp 622: Special Issues in Database Systems
  ○ Lecture notes / slides developed
    Comp 506: Data Processing and Handling in Sensor Networks
    Comp 626: Data Processing and Handling in Sensor Networks
    Comp 622: Special Issues in Database Systems
B – Publications

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

- Graham Cormode, Antonios Deligiannakis, Minos Garofalakis, Andrew McGregor, “Probabilistic Histograms for Probabilistic Data,” 35th International Conference on Very Large Data Bases (VLDB), Lyon, France, August 2009.


Accepted:

- Graham Cormode, Antonios Deligiannakis, Minos Garofalakis, Andrew McGregor, “Probabilistic Histograms for Probabilistic Data,” 35th International Conference on Very Large Data Bases (VLDB), Lyon, France, August 2009.


- Panos Constantopoulos, Costis Dallas, Ion Androustopoulos, Stavros Angelis, Antonios Deligiannakis, Dimitris Gavrilis,

- Published:
  - Graham Cormode, Antonios Deligiannakis, Minos Garofalakis, Andrew McGregor, “Probabilistic Histograms for Probabilistic Data,” 35th International Conference on Very Large Data Bases (VLDB), Lyon, France, August 2009.

C – Awards & Distinctions
- Best student paper award at the IEEE ICDE conference, for the publication: “Double Index Nested-loop Reactive Join for Result Rate Optimization”.

D – Funded Projects

E – Professional service

- Conference Technical Program Committee service
  - IEEE ICDE Demo Program (2009)
  - Siam International Conference on Data Mining (SDM) 2009
  - ACM Workshop on Data Engineering for Wireless and Mobile Access (MobiDE) 2009
  - ACM International Workshop on Data Warehousing and OLAP (DOLAP) 2009
- 3rd International Conference on Geosensor Networks (2009)
- 8th Hellenic Data Management Symposium (HDMS), 2009
- International Workshop on Sensor Networks Technologies for Information Explosion Era (SeNTIE) 2009
- First International Workshop on Data and Process Provenance 2009 (WDPP’09)

- Conference Organization (specify role)
- Reviewing activities
  - Journal referee for the:
    - Information Systems Journal
    - IEEE Sensors
    - Pervasive and Mobile Computing
    - IEEE Transactions on Computers
    - IEEE Transactions on Knowledge and Data Engineering (TKDE)

F – Service to the Department and the School
- Departmental responsibilities
  - Member of the graduate course committee at the Technical University of Crete (2008-2009)
  - Substitute Member of the under-graduate course committee at the Technical University of Crete (2008-2009)
  - Consultant in undergraduate studies (2nd semester courses, Spring 2009)

G – Advising
- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Tsakonas Konstantinos (M.Sc)
- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Dionisios Kalogiropoulos
    - Ioannis Xarxaros
    - Makis Mpousgos
    - Agis Chartistas (co-advisor, with Minos Garofalakis)
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Michail G. Lagoudakis
Rank: Assistant Professor
Years in rank: 4
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 2008)
  - COMP 411 – Theory of Computation (Spring 2009)
  - COMP 417 – Artificial Intelligence (Spring 2009)
- Graduate courses taught
  - COMP 625 – Autonomous Agents (Fall 2008)
- Labs taught
  - COMP 503 – Autonomous Agents Laboratory (Fall 2008)
- Curriculum & course development
  - New courses / labs developed
    - Laboratory exercises for Autonomous Agents (undergraduate)
  - Lecture notes / slides developed
    - Updated lecture slides for Theory of Computation
    - Updated lecture slides for Artificial Intelligence
    - Updated lecture slides for Autonomous Agents (undergraduate)
    - Lecture slides for Autonomous Agents (graduate)

B – Publications

- Publications in refereed journals
Accepted:


Publications in refereed conferences

Published:


C – Awards & Distinctions
D – Funded Projects

- Current projects:

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 2009 (LION)
  - 19th Intl Conference on Automated Planning and Scheduling (ICAPS)
  - 26th International Conference on Machine Learning (ICML 2009)
  - 25th Conference on Uncertainty in Artificial Intelligence (UAI2009)
  - 12th Intl Conference on Artificial Intelligence and Statistics (AISTATS)
- Conference Organization (specify role)
  - Program co-Chair, 13th International RoboCup Symposium, Graz, Austria
- Reviewing activities
  - Autonomous Robots
  - IEEE International Conference on Robotics and Automation 2009 (ICRA)
  - Conference on Learning and Intelligent Optimization 2009 (LION)
  - 12th Intl Conference on Artificial Intelligence and Statistics (AISTATS)
  - 1st Hellenic Conference on Robotics (HEROC)
  - Machine Learning
  - 26th International Conference on Machine Learning (ICML 2009)
  - 25th Conference on Uncertainty in Artificial Intelligence (UAI 2009)
  - 19th Intl Conference on Automated Planning and Scheduling (ICAPS09)
  - IEEE/RSJ Intl Conference on Intelligent Robots and Systems 2009 (IROS)

F – Service to the Department and the School
• Departmental responsibilities
  o Vice Departmental Representative, TUC Library Committee
  o Vice Member, Postgraduate Education Committee

• School-level responsibilities
  o Editorial Board, “TUC News” publication
  o Member, TUC Internal Research Funding Committee

G – Advising

• Postdoctoral Fellows

• Graduate students
  o Ph.D. and M.Sc. theses in progress (supervisor)
    • Rexakis Ioannis (Ph.D program), “Reinforcement Learning via Supervised Learning”, Enrollment: 2006
    • Markos Mpervanakis (M.Sc. program), “Experimental Evaluation of Auction-Based Coordination”, Enrollment: 2006
  o Ph.D and M.Sc. theses completed (committee member)
    ▪ Georgios Kontes (M.Sc.), “Study and Implementation of Controllers for Robotic Systems using Reinforcement Learning Algorithms”, Department of Production Engineering and Management, Technical University of Crete, July 2008
    ▪ Ioannis Botisis (M.Sc.), “A Model for Vehicle Loading on Ferry Boats”, June 2008
  o Ph.D and M.Sc. theses in progress (committee member)
    ▪ Alejandro Mosteo (Ph.D. program), “Multi-Robot Coordination under Communication Constraints”, Department of Computer
Undergraduate students

- Diploma theses completed (supervisor)
  - Stavros Korokithakis, “Heuristic Rule Induction for Decision Making in Deterministic Domains”
  - Konstantinos Haldzos, “Interactive Robotic Gaming”
  - Eleftherios Tsallas, “GeoSage: Geographical Information and Mapping for RSS Feeds in the Sage Extension for Firefox”
  - Georgios Pierris, “Soccer Skills for Humanoid Robots”
  - Emmanuel Vardakis, “Path Planning and Motion Control for Robotic Automobile”
  - Ioannis vasileiou, “Development of a Calorimeter Application for Mobile Phones”

- Diploma theses in progress (supervisor)
  - Nikolaos Papoulhas, “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”
  - Ioannis Skoulakis, “Learning to Play the Game Neighbors”
  - Vlassis Dimitriades, “Learning to Play Strategic Games”
  - Dimitrios Katsaitis, “Estimation of 3D Camera Ego-Motion and Depth from Sequences of Images”
  - Stylianos Tsidinios, “Learning to Play Backgammon using Reinforcement Learning”
  - Emmanuel-Theofanis Chourdakis, “Learning to Play Chord Accompaniments for Solo Instruments”

- Diploma theses completed (committee member)
  - Dionysia Chroni (DPEM), “Motion Control of a Biped Robot using Reinforcement Learning”
  - Nikolaos Bikakis, “Supporting Semantic Queries in XML Databases”
- Nikolaos Stefanidis, “Development of an Interactive Entry and Storage System for Energy Inspection in Buildings”
- Michail Skitsas, “Implementation of Satisfiability Solvers on Field-Programmable Gate Arrays”

- Student team projects
  - Founder and co-leader of the robotic soccer team Kouretes (www.kouretes.gr), the first Greek team participating in the RoboCup competition. Kouretes 2009 consisted of 4 undergraduate ECE students working on their diploma thesis.
Annual Activity Report

For the period: Sep. 1, 2007 to Aug. 31, 2008

Name: Katerina Mania
Rank: Assistant Professor
Years in rank: 3 years, 9 months
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Distributed Multimedia Information Systems and Applications (MUSIC)

A – Teaching

- Undergraduate courses taught
  o PLH 418 - Computer Graphics (Spring 2009)
  o PLH 101 – Introduction to Computers and Computer Science (Winter 2009)

- Graduate courses taught
  o PLH 612 – Visualization and Virtual Reality (Spring 2009)

- Curriculum & course development
  o Material on-line: PLH 612 Visualization and Virtual Reality

B – Publications

- Publications in refereed journals
  o Submitted
Accepted


*Publications in refereed conferences*

Published


**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

Internal TUC project awarded (basic research call for junior faculty): Real-time selective rendering algorithms based on spatial cognition

- Project proposals submitted:
  - HRAKLEITOS call.

**E – Professional service**

- Associate Editor duties

- Conference Technical Program Committee service - membership
  - *Computational Aesthetics 2009*, sponsored by Eurographics, Canada, May 2009
  - *1st IEEE International Conference in Games and Virtual Worlds for Serious Applications*, Coventry, UK, March 2009
  - *2nd IEEE International Conference in Games and Virtual Worlds for Serious Applications*, Portugal, March 2010

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

- Reviewing activities

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

- Departmental responsibilities
  - Regular Member of the Undergraduate Studies committee of the Dept. of Electronic and Computer Engineering (ECE), 2008-2009
  - Regular member of the Graduate Studies committee of ECE, 2008-2009
  - Studies’ advisor for the Dept. of ECE, 2008-2009

- School-level responsibilities
  Substitute member of the Graduate Studies committee of the Technical University of Crete, 2007-2008
  Substitute member of the Board of Regents (Siglitos) of the Technical University of Crete, 2008-2009

**G – Advising**

- Active graduate students supervised
  - Graduate students (at the Technical University of Crete)
    - Aleksandros Zotos (Ph.D candidate, accepted for admission to PhD program, April 2008)
    - Aleksandros Zotos (M.Sc. candidate, year of enrollment Dec. 2007, to be completed October 2009)
- Giwrgos Papadakis (M.Sc. candidate, year of enrollment Dec. 2007)
- Giannis Christodoulou (M.Sc. candidate, year of enrollment Sept. 2008)

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

- Undergraduate students supervised (completed)

- Undergraduate students supervised (in progress)
  - Nick Zervoudakis (to be completed November 2009): ‘3D Computer Gaming using a Rendering Engine’.
  - Isidoros Tsouris (to be completed November 2009): ‘3D Computer Gaming using a Game Engine’.

In many undergraduate 3-member project committees.
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Euripides G.M. Petrakis
Rank: Associate Professor
Years in rank: 5+1/2
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Intelligent Systems Laboratory (http://www.intelligence.tuc.gr)
Personal Web Page: http://www.intelligence.tuc.gr/~petrakis

A – Teaching

- Undergraduate courses taught
  - Multimedia Data Management (Fall 2008)
  - Data Structures and Algorithms (Autumn 2009)
  - Computer Vision (Fall 2008) with prof. Michalis Zervakis

- Graduate courses taught
  - Multimedia Data Management (Fall 2009)

- Labs taught
  - Multimedia Data Management (Fall 2008)
  - Data Structures and Algorithms (Autumn 2008)
  - Computer Vision (Fall 2008)

B – Publications

- Publications in refereed journals
  - Submitted
  o Accepted
  • Paraskevi Raftopoulou, Euripides G.M. Petrakis, Christos Tryfonopoulos, "Rewiring Strategies for Semantic Overlay Networks", Distributed and Parallel Databases (DAPD), 2009.
• Published

• Publications in refereed conferences
  o Submitted:
  • Accepted:
  o Published
    • P. Raftopoulou, E. G.M. Petrakis, C. Tryfonopoulos and G. Weikum, "Information Retrieval and Filtering over Self-Organising Digital Libraries ", 12th European Conference on

- Books and edited book chapters
  - Submitted
    - Sotirios Batsakis, Euripides G.M. Petrakis, “Integrated Ontologies for Spatial Scene Descriptions”, Qualitative Spatio-Temporal Representation and Reasoning: Trends and Future Directions, IGI Global, Shyamanta M. Hazarika (Eds)
  - Accepted:

- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects (completed projects are not included in this list, for a complete list of current and past projects please refer to http://www.intelligence.tuc.gr/~petrakis/funding/funding.htm):
  - Integrated Inspection System supported by Automated Motion Detection (2006 - 2008), Funding Agency: Greek Secretariat for Research and Technology, Participants: TUC, ANKO INC, ARMAOS INC, Principal Investigator for TUC: Euripides G.M. Petrakis. Total Budget 669,000 euros, TUC’s share: 150,000 euros.
  - TOWL (Project No 026896): Time-determined ontology based information system for real time stock (2006 - 2008), Funding Agency: IST-STREP FP6, Participants: Technical University of Crete (TUC), Zoorobotics B.V., Erasmus Universiteit Rotterdam, Politecnico di Bari, Akademia Ekonomiczna W Poznaniu, S.I.I Semantic Internet Inovatoin SPA, Citigroup Global Markets Limited. Project Coordinator & Principal Investigator for TUC: Euripides G.M. Petrakis. Total Budget 1,375,000 euros, TUC’s share: 275,000 euros
  - “RT3S: Real Time Simulation for Safer Vascular Stenting” (2010 - 2013), Co-Principal Investigator for TUC: Euripides Petrakis Funding Agency: FP7-ICT-STREP, Total Budget: 2,745,300 euros, TUCs share: 376,000 euros
Basic research fund, Special Research Committee, TUC. “SOWL: Spatio-Temporal OWL for Reasoning and Querying over the Semantic Web” (2009-2011), Budget 15,000.

- Project proposals submitted:
  - In addition to the above, several (> 5) new project proposals have also been submitted in EU-FP7 (calls 3, 4, 5)

E – Professional service

- Associate Editor duties
- Society Technical Committee duties
- Conference Technical Program Committee service
  - Program committee member of International Symposium on Visual Computing (ISVC08) 2008, USA (http://www.isvc.net/)
  - Program committee member of International Symposium on Visual Computing (ISVC09), 2009, USA (http://www.isvc.net/)
  - International Conference on Image Analysis and Recognition (ICIAR) 2008, Halifax, Canada.
  - International Conference on Image Analysis and Recognition (ICIAR) 2009, Porto, Portugal

- Reviewing activities

F – Service to the Department and the School

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

- School-level responsibilities

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
- Kalliope Zervanou, Post.Doct (PhD Univ. of Manchester, UK), Natural Language Processing, Text processing, Information Extraction.
- Paraskevi Raftopoulou, P2P systems.
- Sotiris Batsakis, Semantic Web.
- Angelos Hliaoutakis, Medical Information Systems
- Efthimios Drymonas, Ontology Construction from Text.
- Evi Mavrogiannaki, Ontologies in medicine.
- Kostas Strvoskoufos, Spatio-Temporal Ontology Languages.
  - PhD. And M.Sc. degrees awarded
    - Efthimios Drymonas: Ontology learning from text based on multi-word term concepts: The OntoGain method.
  - Undergraduate students supervised
    - Michalis Argyriou, Dynamic Clustering
    - Pyrros Koletis, Image Ontologies
    - Nikos Maris, Ontology Reasoning.
  - Diploma theses in progress (supervisor)
    - Nikos Sepetas, Σύστημα Διαχείρισης Χρονικών Οντολογίων
    - Leonida Partsas, Επέκταση Protege για την διαχείριση χρονικών οντολογιών
  - Diploma theses completed (supervisor)
    - Michalis Argyriou, Dynamic Clustering
    - Pyrros Koletis, Image Ontologies
    - Nikos Maris, Ontology Reasoning.
Annual Activity Report

For the period: Sept 1 2008 to Aug 31 2009

Name: Vasilis Samoladas
Rank: Assistant Professor
Years in rank: 5
Full-time or part-time: full-time
Division: Informatics
Lab affiliation: Software technology and network applications (softlab)

A – Teaching

- Undergraduate courses taught
  - ΠΛΗ-301 Λειτουργικά συστήματα
  - ΠΛΗ-202 Εργαλεία ανάπτυξης λογισμικού και προγραμματισμός συστημάτων
  - ΠΛΗ-416 Επεξεργασία πολυδιάστατων δεδομένων

- Graduate courses taught
  - ΠΛΗ-416 Επεξεργασία πολυδιάστατων δεδομένων

Labs taught
- ΠΛΗ-301 Λειτουργικά Συστήματα
- ΠΛΗ-202 Εργαλεία ανάπτυξης λογισμικού και προγραμματισμός συστημάτων

Curriculum & course development
New courses / labs developed

Lecture notes / slides developed
- Εργασία για το μάθημα Εργαλεία Ανατυπής Λογισμικού και Προγραμματισμός Συστημάτων
- Διαφάνειες για το μάθημα “Επεξεργασία Πολυδιάστατων Δεδομένων”
Authored textbooks

- Βιβλίο με τίτλο «ΑΡΧΕΣ ΚΑΤΑΝΕΜΗΜΕΝΩΝ ΣΥΣΤΗΜΑΤΩΝ» στα πλαίσια του ομώνυμου μαθήματος (ΠΛΗ-414) In progress

B – Publications

- Publications in refereed journals
- Publications in refereed conferences
  - Submitted
    - Strevinas, D., Samoladas, V., Manakos I., A spatially-enabled wiki utilizing WebGIS technologies, in *EARSel 2009*.
  - Accepted
  - Published

C – Awards & Distinctions

D – Funded Projects

E – Professional service

- Conference Technical Program Committee service
  - *ESWC (European Semantic Web Conf.) 2009*
  - *SDM (SIAM Intl Conf on Data Mining) 2009*
- Conference Organization (specify role)
- Reviewing activities
  - *Trans. on Knowledge and Data Eng. (TKDE)*
  - *Future Generation Computing Systems (FGCS)*
- Participation in National Committees (e.g., ΕΔΕΤ)
  - Επιστημονική επιτροπή Μ/Κ Εταιρίας ΕΛ/ΛΑΚ (υπ. τον ΕΔΕΤ)

F – Service to the Department and the School

- School-level responsibilities
  - Institute
    - Επιτροπή Μηχανογραφικού
  - Other
G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    1. George Hatzisymeon (PhD), 5th year
    2. Stergios Charalambakis (MSc), 4th year
    3. Μιχάλης Αργυρίου
  - PhD. And M.Sc. degrees awarded
    1. Yiannis Botsis (MSc)
  - PhD. And M.Sc. degrees awarded (committee member)

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    1. Ασήμογλου Κατερίνα
    2. Βλάχου Γεωργία
  - Diploma theses completed (supervisor)
    1. Κώστας Κατάκης
    2. Δημήτρης Στρεβίνας
    3. Διονύσης Χατζημαρκάκης
    4. Πάνος Αϊναλής
  - Diploma theses in progress (committee member)
  - Diploma theses completed (committee member)
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Stavros Christodoulakis
Rank: Professor
Years in rank: 20
Full-time or part-time: Full-time
Division: Informatics
Lab affiliation: MUSIC Laboratory

A – Teaching

- Undergraduate courses taught
  - Data Bases
  - Web Applications
  - Information and Service Integration

- Graduate courses taught
  - Web Applications
  - Information and Service Integration

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

B – Publications

- Publications in refereed journals

Accepted (in addition to Published)

**Published**


**Conference Publications**

**Published**

- Bikakis N., Gioldasis N., Tsinaraki C., Christodoulakis S. Semantic Based Access over XML Data. *In the Proceedings of the 2nd World Summit on the Knowledge Society*, Crete, Greece 2009

**Books and edited book chapters**

C – Awards & Distinctions

- The ACM MUM paper was selected among the best papers of the conference to be submitted to a Special Issue in IEEE Multimedia.

D – Funded Projects

Current projects:

- IQTOOL: Innovative eLearning Tool for Quality Training Material in VET, EU.
- 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.

E – Professional service

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

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
  - Giorgos Kotopoulou (MSc)
  - Yannis Kotopoulou (MSc)
  - Xenia Arapi (MSc)
  - Andreas Pitsiladis (MSc)
  - Manolis Mylonakis (MSc)
  - Marios Christoulakis (MSc)
  - Giorgos Stylianakis (MSc)

- MSc. degree awarded
  - Michalis Foukarakis

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Papachristoudis
    - Panteli
    - Makris
    - Georgakaki
    - Skevakaki
    - Stavrakantonakis
  - Diploma theses completed (supervisor)
    - Mpikakis
Systems Division

Faculty members

- Christodoulou Manolis
- Stavroulakis Petros
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Manolis A. Christodoulou
Rank: Professor
Years in rank: 17
Full-time or part-time: Full-time
Division: Systems
Lab affiliation: Automation

A – Teaching

- Undergraduate courses taught
  - Neural Networks
  - Linear Systems

- Graduate courses taught
  - Advanced Topics in Linear Systems
  - Special Topics in Control (Non-linear Adaptive Control)

- Labs taught
  - Neural networks
  - Linear Systems

- Curriculum & course development
  - New labs in Neural Networks
  - Electronic web slides developed for Linear Systems

B – Publications
• Publications in refereed journals
  Published

• Publications in refereed conferences
  Published
  o Y.S.Boutalis, **M.A.Christodoulou** and D.C.Theodoridis A new Neuro-Fuzzy intelligent method for indirect adaptive control of nonlinear systems via a novel approach of parameter hopping", *Joint 4th International Conference on Soft Computing and Intelligent Systems and 9th International Symposium on Advanced Intelligent Systems*, pp. 918-923, September 17-21, 2008, Nagoya University, Nagoya, JAPAN.
  o **M.A.Christodoulou**, D.C.Theodoridis and Y.S.Boutalis,Neuro-Fuzzy Non-linear Dynamical System Approximations using High Order Neural Networks", *Proceedings of the 2nd CHAOS 2009, Chaotic Modeling and
Simulation International Conference, paper SCS3.2, Chania, Crete, Greece, June 1-5, 2009.


Books and edited book chapters

C – Awards & Distinctions

D – Funded Projects

E – Professional service

- Mediterranean Control Association, Member of the Board of Governors
- Associate Editor, 16th IEEE Mediterranean Conference on Control and Automation, Corsica, France, June 25-27, 2008.
- International Program Committee, Member
- International program committee member, 17th MED Conference on Control and Automation” Makedonia Palace, Thessaloniki, Greece, June 24-26, 2009.
- Chairman, Plenary Talk: Jie Huang, Nonlinear Regulation Control, 17th MED Conference on Control and Automation” Makedonia Palace, Thessaloniki, Greece, June 24-26, 2009.
• Chairman, Nonlinear Systems Session, CHAOS 2009 2nd Chaotic Modeling and Simulation International Conference" Chania, Greece, June 1-5, 2009.
• Chairman, Neural Networks Session, CHAOS 2009 2nd Chaotic Modeling and Simulation International Conference" Chania, Greece, June 1-5, 2009
• International program committee member, CHAOS 2009 2nd Chaotic Modeling and Simulation International Conference" Chania, Greece, June 1-5, 2009.
• Associate Editor 17th IEEE Mediterranean Conference on Control and Automation" Thessaloniki, Greece, June 24-26, 2009.
• International Program Committee, Member 17th IEEE Mediterranean Conference on Control and Automation" Thessaloniki, Greece, June 24-26, 2009.
• Associate Editor 16th IEEE Mediterranean Conference on Control and Automation" Corsica, France, June 25-27, 2008.
• Chairman, Keynote Session, CHAOS 2008 Chaotic Modeling and Simulation International Conference, Chania, Greece, June 2-6, 2008.
• Chairman, Self-organisation/control Session, CHAOS 2008 Chaotic Modeling and Simulation International Conference, Chania, Greece, June 2-6, 2008.
• Chairman, Neural Networks Session, CHAOS 2008 Chaotic Modeling and Simulation International Conference, Chania, Greece, June 2-6, 2008.
• International program committee member, CHAOS 2008 Chaotic Modeling and Simulation International Conference", Chania, Greece, June 2-6, 2008.
  o Reviewer for various *IEEE Transactions and IEEE Conferences*.

F – Service to the Department and the School

G – Advising

• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
  o Iosif Kodaxakis
  o Vouros Efstratios
  o Giotis Thomas

  o PhD. And M.Sc. degrees awarded
• Undergraduate students supervised
  Several diploma theses are in process and/or completed.
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Peter Stavroulakis
Rank: Professor
Years in rank: 19
Full-time or part-time: Full-time
Division: Systems
Lab affiliation: Automation

A – Teaching (Προπτυχιακά)

- Θεωρία και εφαρμογές αυτομάτου ελέγχου
- Βέλτιστος έλεγχος
- Νευρωνικά Δίκτυα (μεταπτυχιακό)

B – Publications

Books published

“Handbook in Communication and information security” to be published by Springer.

C – Awards & Distinctions

D – Funded Projects
E – Professional service

- 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

- Conference Organization (specify role)
  - Symposium Chairman on Communication and Information security for CHINACOM/ August 2009 conference sponsored by IEEE

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

F – Service to the Department and the School

G – Advising

Undergraduate thesis

Electronics and Computer Architecture Division

Faculty members

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

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Costas Balas
Rank: Associate Professor
Years in rank: 7.5
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
  o Electronics I
  o Optoelectronics

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

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

Accepted:

Published:


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

Accepted:

Published:


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

- Patents
C – Awards & Distinctions

- Invited Plenary Lectures
  - IEEE International Workshop on Imaging Systems and Techniques (IST 2008)

D – Funded Projects

Project proposals submitted:
“In vivo Molecular Imaging of Epithelial Pre-Cancers based on Dynamic Optical Scattering Modeling” Heraklitos, GSRT, #17/26/6

E – Professional service

Conference Organization
International advisory committee member Regional IALMS conference Photomedicine 2009: diagnosis and treatment“ 2nd BALM Congress, Vilnus.
Reviewing activities
Journal of Biomedical optics

F – Service to the Department and the School

G – Advising

Active graduate students supervised
Ph.D. and M.Sc. students supervised
Tsapras Athaniasios (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)
Anastasopoulou Antigoni
Galaras Costas
Makridou Georgia
Aronis Spiros

Diploma theses completed (supervisor)
Laga Pegy
Kontouli Agelika
Sgouros Antonis
Kavadias Basilis
Epitropou Georgios
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Matthias Bucher
Rank: Assistant Professor (tenure)
Years in rank: 5+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 2008)
  - ECE 311 – Electronics II (Spring 2009)

- Graduate courses taught
  - ECE 604 – Special Themes of Analog Integrated Circuit Design (Fall 2008)

- Labs taught
  - ECE 503 – Design of CMOS Analog Integrated Circuits (Fall 2008)
  - ECE 311 – Electronics II (Spring 2009)

- Curriculum & course development
B – Publications

- Publications in refereed journals
  - Submitted:
    - **M. Bucher**, “Moderate Inversion in MOSFETs – Characterization, Modelling and Design”, submitted, *J. of Telecommunications and Information Technology (JTIT)*.
    - M.-A. Chalkiadaki, **M. Bucher**, “Large-signal RF modelling of MOSFETs with the EKV3 MOSFET model”, submitted, *J. of Telecommunications and Information Technology (JTIT)*.
  - Accepted-Published:
  - Published:

- Publications in refereed conferences

- International Workshop Presentations:


### C – Awards & Distinctions

### D – Funded Projects

- Current projects:

  Project proposals submitted:
  - Heraklitos II, Nanoscale RF CMOS Transceiver Design, Greek Ministry of Education.
  - Archimedes III, Organic Electronic Devices for Radiation Detectors, Greek Ministry of Education.

- Development of Electronics Laboratory infrastructure:
o Dynamic Signal Analyzer (HP 35670A).
- Modular Source/Monitor Unit (HP 4142B).
- Arbitrary Waveform/Function Generator, 50 MHz (Keithley 3390).
- Active probe for oscilloscope, 1.5 GHz (Agilent 1156A).
- Digital multimeter, 5½ digit (Agilent 34405A).
- Triple output power supply (Agilent E3630A).
- Test fixture (Agilent 16047A) for LCR meter.
- Cable kit (Cascade Microtech) for LCR meter.
- Micropositioners (Cascade Microtech DCM 210, EZ).

E – Professional service

- Conference Technical Programme Committee service
  - *TPC member, IEEE Workshop on Design and Diagnostics of Electronic Circuits and Systems (DDECS) 2009.*

- Conference Organization
  - *Workshop & Tutorials Chairman, European Solid-State Circuits Conference (ESSCIRC 2009), Athens, September 14-18, 2009.*

- Reviewing activities
  - *IEEE Trans. on Electron Devices*
  - *IEEE Trans. on Computer Aided Design of Integrated Circuits and Systems*
  - *Solid-State Electronics*

F – Service to the Department and the School

- Departmental responsibilities
  - Director, Electronics Laboratory.
  - Deputy Member, Committees for undergraduate and graduate Studies.
  - Member, Examinatory committee for admission of undergraduate students.
  - Organized & accompanied 3rd and 4th year students’ educational excursion (June 8-13, 2009, 70 participants).
G – Advising

- Graduate students supervised
  - DRT (diplome de recherche technologique) degree awarded (member of the examinatory committee):
    - Raphael Fascio, Modele EKV3 du transistor MOS appliqué a la conception de circuits integres fonctionnant a basse temperature avec une filiere CMOS 0.18um, Institut National Polytechnique de Grenoble, March 27, 2009.
  - Ph.D. students supervised (supervisor):
    - Angelos Antonopoulos, Design of nanoscale RF CMOS transceivers, Enrollment: June 2008.
  - M.Sc. students supervised (supervisor):
    - Nikos Makris, Design of RF CMOS voltage controlled oscillators (VCOs), Enrollment 2006.
    - Nikos Mavredakis, Design of RF CMOS low noise amplifiers (LNAs), Enrollment 2006.

- Undergraduate students supervised
  - Diploma theses completed (supervisor):
    - Michael Karefylakis, Compact modelling of high-voltage MOSFETs, Aug. 2009.
  - Diploma students (supervisor):
    - Athanasios Dimakos, Low voltage analog design techniques.
    - George Diles, Study of transconductance in advanced CMOS technology.
    - George Smaragdos, Design of integrated filters based on current-mode OPAMPs.
    - Prodromos Prodromou, Development of a MOSFET benchmarking tool in Cadence.
George Volanis, Design of a low-voltage Sigma-Delta Analog-to-Digital Converter.

Apostolos Tsivitis, Study of 1/f noise in MOS transistors.

Tasos Grammatikos, CMOS varactor modeling.

Vassilis Mylonakis, Design of CMOS variable gain amplifier (VGA).

Theodora Tsironikou, Automated parameter extraction system for EKV model.

Konstantinos Kangarakis, tbd.

- Diploma theses completed (committee member):
  - Angeliki Kontouli, In depth imaging of highly scattering skin tissues, July 2009.
  - Peggy Lagga, Spectral imaging and classification algorithms of reflection spectra for the detection and mapping of tooth caries, May 2009.
  - Eleftheria Leventaki, Control of maximization of the efficiency of a hybrid photovoltaic – fuel cell system connected to power grid, Sept. 2008.
Annual Activity Report

For the period: September 1, 2008, to August 31, 2009

Name: Apostolos Dollas
Rank: Professor
Years in rank: 8
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 501 - VLSI and ASIC Design (elective, formerly mandatory)
  - HRY 211 - Advanced Logic Design (mandatory)

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

- Labs taught
  - Supervised the labs of HRY 501 (VLSI and ASIC Design) which I had completely re-written during the previous academic year on a different platform than the one previously used.
  - Completely rewrote the laboratory exercises of HRY 211 (Advanced Logic Design), introducing mandatory hands-on lab exercises with Xilinx Spartan FPGA’s. Supervised the new labs of HRY 211

- Curriculum & course development
  - Lecture notes / slides developed: Developed new 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
  o Submitted
  o Accepted
  o Published

• Publications in refereed conferences
  o Accepted
  o Published (all papers fully refereed)

• Books and edited book chapters

• Patents

C – Awards & Distinctions

D – Funded Projects

• Current projects:
  
  o “Scientific Equipment for the Departments of the Technical University of Crete”, Total Budget 500,000 Euros, and it includes the project “Acquisition of a GRID computer for the Technical University of Crete”, 150,000 funded under the PEP Program of Crete, Apostolos Dollas, PI.
  
  o 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, 32,229 Euros (all budget is in TUC)
  

E – Professional service

• Conference Technical Program Committee service
  
  ◆ Program Committee Member 17th IEEE Symposium on Field Programmable Custom Computing Machines (FCCM), Napa Valley, USA, April 5-7, 2009.
  
  
  ◆ Program Committee Member, International Conference on Field Programmable Technology (FPT, IEEE Sponsored), Sydney, Australia, December 9-11, 2009.
  
  ◆ Program Committee Member, IEEE Symposium on Application-Specific Processors (SASP 2009), San Francisco, USA, July 27-29, 2009.

• Member of the election committee for an Assistant Professor at the University of Ioannina
• Member of the election committee for an Assistant Professor at the University of Patras
• Member of several election committees and recommendation committees and faculty elections at the Dept. of ECE of the Technical University of Crete

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

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

F – Service to the Department and the School

• Departmental responsibilities
  o Faculty Advisor to the 4th year students
  o Director, Microprocessor and Hardware Laboratory until May, 2009
  o Member of the TUC – U. Crete ad hoc rector’s committee for the development of a bi-institutional graduate program in biomedical engineering
  o Member, Graduate Studies Committee
  o Member of faculty recommendation committees in several faculty elections, member of the election committee and participation in the election process of several faculty elections.

• Responsibility for Department-wide projects
  o Coordinator on behalf of the ECE Dept. of the TUC-wide Grid computer proposal, under appointment by the Departmental General Assembly and the Rector’s council, overseeing the acquisition process (which ranges from the international bidding competition to coordinating its installation in the TUC NOC data center, which is also under development and addressing all issues regarding its operation). The Grid computer was delivered to the TUC community, fully operational.

• School-level responsibilities
  o TUC Senate – appointed TUC-wide principal investigator for the student’s practical training program, coordinating the 1.437 M Euro proposal “Practicum at the Technical University of Crete” for three years (2009-2012), and the university-level policy that it entailed.
G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised (advisor, completed)
    - Ninos, Spyridon (MS)
  - Ph.D. and M.Sc. students supervised (advisor, in progress)
    - Papademetriou, Kyprianos (PhD)
    - Sotiriades, Euripides (PhD)
    - Chrysos, Grigorios (PhD)
    - Efstathiou, Dionissios (MS)
  - PhD. And M.Sc. degrees awarded (committee member)
    - Fytraki, Sotiria
    - Nikitakis, Antonios
    - Katzourakis, Diomidis
    - Kyriakoulakos, Constantinos
  - PhD and M.Sc. Degrees (committee member)
    - Mavroidis, Ioannis (PhD)
    - Mavroidis, Iakovos (PhD)
    - Kornaros, George (PhD)
    - Meidanis, Dimitrios (PhD)
    - Mplemenos, George (MS)
    - Papadopoulos, Constantinos (MS)
    - Siskos, George A.

- Undergraduate students supervised
  - Diploma theses in progress
    - Kouinis, Konstantinos
    - Kokkalis, Stylianos
    - Nikoloudakis, George
    - Vasilopoulos, Dimitrios
    - Peres, Juliana
    - Koukousoulas, Pantelis
    - Gegios, Nikolaos
  - Diploma theses completed (supervisor)
    - Sartzetakis, Ippokratis – Leonidas
    - Alachiotis, Nikolaos
    - Kallitsis, Nikolaos
    - Malakonakis, Pavlos
    - Mastrogiannopoulos Dimitrios – Panagiotis
    - Liatakis, Constantinos
    - Eufframides, Charalampos
    - Kagiavas, Christos
- Dagritzikos, Panagiotis
- Skitsas, Michael

- Diploma theses in progress (committee member)
  - Desarti, Athina
  - Lakka, Matina
  - Smerdis, Miltiadis
  - Kottikas, Constantinos
  - Spanakis, Michael
  - Elias, Anargyros
  - Stefanatos, K.
  - Tsapeli, Fani
  - Ntortou, Eiranna
  - Founta, Ifigeneia
  - Tzanoudakis
  - Agadakos

- Diploma theses completed (committee member)
  - Afratis, Panagiotis
  - Vavouras, Michael
  - Sotiropoulos, Ioannis
  - Pelekanos, Nektarios
  - Athanasiou, Georgios
  - Galanakis, Constantinos
  - Spanos, Nikolaos
  - Kouratoras, Constantinos
  - Tsiligiannis, Nikolaos
  - Kontos, Dimitrios
  - Spyropoulos, Kyriakos
Annual Activity Report

For the period: September, 1, 2008 to August, 31, 2009

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

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

- Labs taught
  - Electric Measurements and Sensors (7th semester)
  - Electric Circuits Analysis (4th semester)

- Curriculum & course development
  - New courses / labs developed:
  - Lecture notes / slides developed:
  - Authored textbooks
B – Publications

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

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

- Books and edited book chapters:
  - Kolokotsa D., Diakaki C., Grigoroudis E., Stavrakakis G. and Kalaitzakis K., “Decision support methodologies on the energy efficiency and energy

- Patents

**C – Awards & Distinctions**

**D – Funded Projects**

- Current projects:
  - **Positive-Energy Buildings Through Better Control Decisions** (PEBBLE), Small/Medium-Scale Focused Research Project, FP7-ICT-2009.6.3: ICT for Energy Efficiency, B. ICT Support To Energy-Positive Buildings And Neighborhood, Coordinator is the Technical Univ. of Crete, 7 European participants (Institutions and Companies), total cost 2.4 MEuro, 500 kEuro for the TUC.
  - Project proposals submitted:

**E – Professional service**

- Associate Editor duties
- Society Technical Committee duties
- Conference Technical Program Committee service
- Conference Organization (specify role)
- Reviewing activities:
  - *IEEE Trans. on Power Electronics*
  - *IEEE Trans. on Circuits and Systems II*
  - *IEEE Trans. on Industrial Electronics*
  - *IEE Proceedings – Electric Power Applications*
  - *IEE-Electronics Letters*
  - *Renewable Energy*
  - *Energy*

- Participation in National Committees (e.g. EΔET)
- Other

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

- Departmental responsibilities
  - Lab Director: Electric Circuits and Renewable Energy Sources
- School-level responsibilities
G – Advising

• Active graduate students supervised

  o Ph.D. and M.Sc. students supervised
    K. Papadakis (M.Sc.), year of initial enrollment in M.Sc. program: 2004.
    A. Siskos (M.Sc.), year of initial enrollment in M.Sc. program: 2006.
    A. Kornelakis (M.Sc.), year of initial enrollment in M.Sc. program: 2008.

  o PhD. And M.Sc. degrees awarded
    A. Siskos (M.Sc.), year of initial enrollment in M.Sc. program: 2006.
    A. Kornelakis (M.Sc.), year of initial enrollment in M.Sc. program: 2008.

• Undergraduate students supervised

  o Diploma theses in progress (supervisor)
    K. Sfakianakis, “Development of a Detailed PV Model”
    M. Desarti, “Application of the Tabu Search method to Bioengineering Subjects”
    E. Batzelis, “Optimal Design of a PV Plant using the Tabu Search Method”
    T. Mantzoros, “Optimal Design of a WECS Plant using the Tabu Search Method”
    P. Doriakis, “Optimal Design of a PV Plant using the Particle Swarm Method”
    P. Kalodimas, “Cultivation Automation and Supervising using Remote Monitoring and GSM Technology”
    T. Dafoulis, “ECG Signal Classification using the Ant Colony approach”

  o Diploma theses completed (supervisor)

    S. Nikolaidis, “Heart Diagnosis Support Device using ECG and Sphygmomanometer Signals”
    E. Founta, “PWM generator using FPGA”

  o Diploma theses in progress (committee member):

  o Diploma theses completed (committee member):
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

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

A – Teaching

- Undergraduate courses taught
  - HRY 401 – Embedded Systems Design (Fall 2008)
  - HPY 312 – Computer Organization (Spring 2009)

- Graduate courses taught
  - HRY 501 – VLSI CAD tools (Spring 2009)

- Labs taught
  - HRY 401 – Embedded Systems Design (Fall 2008)
  - HPY 312 – Computer Organization (Spring 2009)

B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted

- Published

- Publications in refereed conferences
  - Submitted: those published/appeared (see below), plus
    - I. Mavroidis, I. Papaefstathiou, “Cost-Efficient Hardware/Software Partitioning”, submitted to IEEE Design Automation and Test in Europe (DATE 2010), March 8-12, Dresden, Germany.
    - A. Brokolakis, 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 2010), March 8-12, Dresden, Germany.
  - Accepted: same as published (see below) plus
    - G. Chrysos, I. Papaefstathiou, “Heavily Reducing WSNs’ Energy Consumption by Employing Hardware-Based Compression, IEEE ADHOC-NOW 2009, Sept. 20-23 Murcia, Spain, “(Ποσοστό αποδοχής εκτενών εργασιών 27%)

- Published
  - G. Chrysos, I. Papaefstathiou, “Heavily Reducing WSNs’ Energy Consumption by Employing Hardware-Based Compression, IEEE ADHOC-NOW 2009, Sept. 20-23 Murcia, Spain, “(Ποσοστό αποδοχής εκτενών εργασιών 27%)
I. Sotiropoulos, I. Papaefstathiou, “A FAST PARALLEL MATRIX MULTIPLICATION RECONFIGURABLE UNIT UTILIZED IN FACE RECOGNITIONS SYSTEMS”, IEEE International Conference on Field Programmable Logic and Applications (FPL), 2009, Aug 31- Sept 2, Prague, Czech Republic, (Ποσοστό αποδοχής εκτενών εργασιών 23%)

Charalampos Effraimidis, Kyprianos Papadimitriou, Apostolos Dollas, Ioannis Papaefstathiou, “A SELF-RECONFIGURING ARCHITECTURE SUPPORTING MULTIPLE OBJECTIVE FUNCTIONS IN GENETIC ALGORITHMS”, IEEE International Conference on Field Programmable Logic and Applications (FPL), 2009, Aug 31- Sept 2, Prague, Czech Republic (short paper)

Grigorios Chrysos, Euripides Sotiriades, Ioannis Papaefstathiou, Apostolos Dollas, “A FPGA BASED COPROCESSOR FOR GENE FINDING USING INTERPOLATED MARKOV MODEL (IMM)”, IEEE International Conference on Field Programmable Logic and Applications (FPL), 2009, Aug 31- Sept 2, Prague, Czech Republic (short paper)


- I Mavroidis, I. Papaefstathiou, “Accelerating Hardware Simulation: Testbench Code Emulation”, IEEE International Conference on Field Programmable Technology 2008 (FPT’08), December 7th -10th Taipei, Taiwan (Ποσοστό αποδοχής εκτενών εργασιών 22%).

I. Books and edited book chapters

J. Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  o AWISSENET, FP7-STREP, Award Period January 2008 – March 2010, Funding Level 2.2M € (300K € for TUC)
  o OSMOSIS, FP7-CAPACITIES, Award Period October 2009 –September 2011, Funding Level 1.2M € (300K € for TUC). Technical Manager
  o SMART, FP7-ARTEMIS, Award Period May 2009 – April 2012, Funding Level 4.2M € (300K € for TUC). Technical Manager
- Project proposals submitted:
o Organizer, of “HEAP”, FP7-STREP proposal, grade 12.5/24 will be funded from 1/02/09
o Participating in “R3-COP”, FP7-ARTEMIS proposal, results awaited.

E – Professional service

• Associate Editor duties

• Society Technical Committee duties

• Conference Technical Program Committee service
  o IEEE DATE 2009 and 2010
  o IEEE FPL 2009
  o IEEE RSP 2009
  o Several other smaller workshops

• Conference Organization (specify role)

• Reviewing activities
  o Regular reviewer for IEEE Communications, IEEE Design & Test, ECAD magazines
  o Regular reviewer for IEEE Samos, IEEE VLSI-SoC

F – Service to the Department and the School

G – Advising

• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ Dimitris Meintanis (Ph.D). Year of initial enrollment in Ph.D. program: 2005 (co-supervised with Prof. Dollas).
    ▪ Antonis Nikitakis (Ph.D.). Year of initial enrollment in program: 2008
    ▪ Panagiotis Christou, (M.Sc.). Year of initial enrollment in program: 2006.
    ▪ Georgios Mplemenos (M.Sc). Year of initial enrollment in program: 2008
    ▪ Konstantinos Papadopoulos (M.Sc.). Year of initial enrollment in program: 2008
• Undergraduate students supervised
  o Diploma theses in progress (supervisor)
    ▪ G. Mpouris.
    ▪ A. Katsoulas
    ▪ N. Pogkas
    ▪ D. Daskalakis
    ▪ I. Agadakos
    ▪ N. Chrysanthou
    ▪ K. Mountakis
    ▪ T. Tzanakakis

  o Diploma theses completed (supervisor)
    ▪ A. Katsoulas
    ▪ I. Kartsonakis
    ▪ E. Ntortou
    ▪ K. Stefanatos
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Dionisis Pnevmatikatos
Rank: Associate Professor
Years in rank: 7
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Microprocessor and Hardware laboratory

A – Teaching

- Undergraduate courses taught
  - HRY 201 – Digital Computers (Fall 2008)
  - HRY 411 – Computer Architecture (Spring 2009)

- Graduate courses taught
  - HRY 621 – Advanced Computer Architecture (Fall 2008)

- Labs taught
  - HRY 201 – Digital Computers (Fall 2008)
  - HRY 411 – Computer Architecture (Spring 2009)

- Curriculum & course development
  - New courses / labs developed
  - Lecture notes / slides developed
    - Digital Computers (Update)
    - Advanced Logic Design (Update)
  - Authored textbooks
B – Publications

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

Accepted:

Published:

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

Accepted:

Published:


Dimitrios Kontos, Ioannis Papaefstathiou, Dionisios Pnevmatikatos, "Design Space Exploration of Reconfigurable Systems for Calculating Flying Object’s Optimal Noise Reduction Paths",
Proceedings of the 19th International Conference on Field Programmable Logic and Applications (FPL), August 31-September 2, 2009, Prague, Czech Republic.


- Books and edited book chapters
- Patents

C – Awards & Distinctions

D – Funded Projects

Project proposals submitted:
FASTER IST

E – Professional service

Conference Technical Program Committee service

Conference Technical Committee Member:
International Conference on Field Programmable Logic and Applications (FPL) 2009
International Conference on Embedded Computer Systems: Architectures, Modelling, and Simulation (IC-SAMOS) 2009
International Workshop on Rapid System Prototyping (RSP) 2009
IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-Soc) 2008

Workshop Technical Committee Member:
HIPEAC-RC (Reconfigurable Computing) 2009
HIPEAC - Interconnection Network Architectures: On-Chip, Multi-Chip (INA-OMC) 2009

Conference Organization
Program Chair:
Design and Test Europe (DATE) Architecture and Microarchitecture Track, 2009
General Co-Chair:
Panhellenic Conference on Informatics (PCI) 2008

Reviewing activities
Journal Reviewer:
ACM TREATS
ACM TACO
Journal of HIPEAC
Computer Architecture Letters
IET Journal
Conference Reviewer:
Parallel Architectures and Compilation Techniques (PACT)
International Symposium on High-Performance Computer Architecture (HPCA)
ACM/IEEE Symposium on Architectures for Networking and Communications Systems

F – Service to the Department and the School

Departmental responsibilities
Department Chair
Undergraduate Program Committee
Graduate Program Committee
Responsible for the Department-wide practical training project

School-level responsibilities
University Senate
University Disciplinary committee
University Graduate committee

G – Advising

Active graduate students supervised
Ph.D. and M.Sc. students supervised
G. Kornaros
I. Mavroidis
PhD. And M.Sc. degrees awarded
Konstantinos Kyriakoylakos (M.Sc.)
Fytraki Sotiria
Diploma theses completed (committee member)
ΝΙΚΗΤΑΚΗΣ ΑΝΤΩΝΙΟΣ (M.Sc.)
ΝΙΝΟΣ ΣΙΠΥΡΙΔΩΝ (M.Sc.)
ΚΑΝΤΑΡΗΣ ΙΩΑΝΝΗΣ (M.Sc.)

Undergraduate students supervised
Diploma theses in progress (supervisor)
ΠΑΠΑΣ
ΜΑΡΚΟΠΟΥΛΟΣ
ΤΡΟΥΛΙΝΟΣ

Diploma theses completed (supervisor)
ΓΑΛΑΝΑΚΗΣ ΚΩΝ/ΝΟΣ
ΤΣΙΛΙΓΙΑΝΝΗ ΜΙΧΑΗΛ
ΑΦΡΑΤΗΣ ΠΑΝΑΓΙΩΤΗΣ
ΣΙΠΥΡΟΠΟΥΛΟΣ ΚΥΡΙΑΚΟΣ

Diploma theses completed (committee member)
ΒΑΒΟΥΡΑΣ ΜΙΧΑΗΛ
ΣΩΤΗΡΟΠΟΥΛΟΣ ΙΩΑΝΝΗΣ
ΠΕΛΕΚΑΝΟΣ ΝΕΚΤΑΡΙΟΣ
ΣΠΑΝΟΣ ΝΙΚΟΛΑΟΣ
ΑΛΑΧΙΩΤΗΣ ΝΙΚΟΛΑΟΣ
ΚΟΝΤΟΣ ΔΗΜΗΤΡΙΟΣ
ΚΑΓΚΑΡΑΚΗΣ ΛΕΩΝΙΔΑΣ
ΕΦΡΑΙΜΙΔΗΣ ΧΑΡΑΛΑΜΠΟΣ
ΚΑΓΙΑΒΑΣ ΧΡΙΣΤΟΣ
ΩΛΑΙΤΖΙΚΟΣ ΠΑΝΑΓΙΩΤΗΣ
Annual Activity Report

For the period: 1-9-2008 to 31-8-2009

Name: Stavrakakis George
Rank: Professor
Years in rank: 14
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
  o Basic Circuit Theory (HRY 202)
  o Renewable Energy Sources (HRY 416)

• Curriculum & course development
  o New courses / labs developed: Renewable Energy Sources (HRY 416)
  o Lecture notes / slides developed: Renewable Energy Sources (HRY 416)
B – Publications

Publications in refereed journals
Submitted: 10
Accepted: 8
Published: 6 (see bellow)


Publications in refereed conferences
Submitted: 4
Accepted: 4
Published: 1 (see bellow)

• Patents: one in the national level (see bellow)
  o Έξυπνη μέθοδος και ολοκληρωμένη ηλεκτρονική διάταξη διαχείρισης πληροφοριών σε συστήματα εξασφαλίσεως εσωτερικής άνεσης με ταυτόχρονη ενεργειακή διαχείριση κτιρίων. (OBI2004010045)

C – Awards & Distinctions

D – Funded Projects

Current projects:
  • BALKWASTE-Waste network for sustainable solid waste management planning and promotion of integrated decision tools in the Balkan region”.

E – Professional service

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

Reviewing activities:
  o Zentralblatt fur Mathematik und ihre Grenzgebiete (Mathematics Abstracts) edited by Springer-Verlag International publ.
  o Journal of Intelligent and Robotic Systems.
  o IEEE Transactions on Energy Conversion.

Participation in National Committees (e.g., ΕΔΕΤ):
  o Committee of the Prefecture of Crete for the Energy Problem of Crete

F – Service to the Department and the School

G – Advising

Active graduate students supervised

PhD students supervised
  1. Tripolitakis Evagelos
2. Nikolaou Triantafylia
3. Sergaki Eleftheria

- M.Sc Students supervised
  1. Afentakis Nikolaos
  2. Vassalos Gerasimos
  3. Dougali Evaggelia
  4. Sytzanaki Athina
  5. Gobakis Konstantinos
  6. Panagiwtidou Natalia
  7. Limneos Georgios

M.Sc. degrees awarded: 2
1. Kafetzis Georgios
2. Patelis Petros

Committee Member of M.Sc. degrees awarded: 2

Undergraduate students supervised

- Diploma theses in progress (supervisor): 16
- Diploma theses completed (supervisor): 8
- Diploma theses in progress (committee member): 12
- Diploma theses completed (committee member): 7
Telecommunications Division

- Bletsas Aggelos
- Digalakis Vassilios
- Zervakis Michail
- Karystinos George
- Koutsakis Polychronis
- Liavas Athanasios
- Paterakis Michail
- Potamianos Alexandros
- Sidiropoulos Nikolaos
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Aggelos Bletsas
Rank: Assistant Professor
Years in rank: 0 (started during summer 2009)
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

B – Publications

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


Accepted:

American Society for Information Science and Technology (JASIST).


Published:


Publications in refereed conferences

Accepted:


Published:

A. Bletsas, A.G. Dimitriou, J.N. Sahalos, "Reduced-Delay Interference-Aware Opportunistic Relaying", *IEEE International Conference on Communications (ICC) 2009*.


- Books and edited book chapters


Invited Talks


A. Bletsas, A.G. Dimitriou, J.N. Sahalos, "Improving Backscatter Radio Tag Efficiency", *COST RF/Microwave Communication*
D – Funded Projects

Current projects:
“RFID in Healthcare”, Cyrpus Research Promotion Foundation.
“Network of Broadband Meters”, Wind.

E – Professional service

Conference Technical Program Committee service
Reviewing activities
~12 papers at major IEEE journals and conferences.
Annual Activity Report

For the period: September 1, 2008 to August 31, 2009

Name: Vassilios Digalakis
Rank: Full
Years in rank: 9
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)
  Statistical Pattern Recognition (with A. Potamianos)

Graduate courses taught
  Advanced topics in speech processing

B – Publications

Publications in refereed conferences
Submitted

C – Awards & Distinctions
D – Funded Projects

Current projects: (PI)

“Ανάπτυξη Πολυτροπικής Πλατφόρμας με ενσωματωμένες υπηρεσίες Αναγνώρισης και Σύνθεσης Φωνής για Φορητές Συσκευές”, ΠΕΝΕΔ, PI, PI’s Budget € 180.000.

Current projects: (Collaborator)

Μοντέλοποιηση, σύνθεση και αναγνώριση φωνής με υπολογιστική αεροδυναμική ανάλυση του ανθρώπινου ηχητικού σωλήνα, ΠΕΝΕΔ, Co-PI, PI’s Budget € 180.000.

Proposals submitted:

ExTeNtS, “Pole of Excellence in Telecommunication Systems, Networks and Services”, coordination of proposal submitted to REGPOT 2009-1.

E – Professional service

Reviewer in several journals.

ICASSP 2010 Reviewer
Interspeech 2009 Reviewer
Eusipco 2009 Reviewer and TPC member

F – Service to the Department and the School

Departmental responsibilities

Director, Information and Computer Networks Lab
Member, Undergraduate studies committee

School-level responsibilities

Director, Telecommunication Systems Institute

G – Advising

Active graduate students supervised

Ph.D. and M.Sc. students supervised

Costas Charizakis, x7377, PhD, 2003
Chris Vosnidis, x7377, PhD, 2004
Dimitris Oikonomidis, PhD, 2003
Orfeas Tsergoulas, MSc, 2007- awarded 10/2009
Pavlos Papadopoulos, MSc, - to defend 12/2009
Kostas Athanasoglou, MSc, 2007

Undergraduate students supervised

Alexandros Georgogiannis
Annual Activity Report

For the period: Sept 1, 2008 to Aug 31, 2009

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
  • Computer Vision

Graduate courses taught
  • Pattern Recognition

  o Labs taught
    o Digital Signal Processing
    o Digital Image Processing
    o Computer Vision

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

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


Accepted:


Book chapters


C – Awards & Distinctions

D – Funded Projects

2009-2012 TEMPUS IV project tilted Curricula Reformation & Harmonisation in the Field of Biomedical Engineering (CRH-BME Tempus Project N° 144537-TEMPUS-2008-GR-JPCR
Project proposals submitted:
- During the Calls of ICT and Health participated in the submission of four STREPs; One is in negotiation phase

E – Professional service

Society Technical Committee duties
- Session Chair ICANN-09
- Special Session Organizer in ICANN-09: Data mining and modelling of brain activity: their use as tools for understanding attentional mechanisms

Conference Technical Program Committee service
Conference Organization (specify role)
Reviewing activities:

Participation in National Committees (e.g., EΔΕΤ)
Other
- External reviewer for two PhD thesis from the University of Ioannina.

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

- PhD. And M.Sc. degrees awarded
Annual Activity Report

For the period: Sept. 1, 2008 to Aug. 31, 2009

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

A – Teaching

Undergraduate courses taught
TEL 201 – Signals and Systems (Fall 2008)
TEL 412 – Information Theory and Coding (Spring 2009)

Graduate courses taught
TEL 601 – Probability and Random Processes (Fall 2008)

- Labs taught
  - TEL 201 – Signals and Systems Lab (Fall 2008)
  - TEL 412 – Information Theory and Coding Lab (Spring 2009)

- Curriculum & course development
  - New courses / labs developed
  - Lecture notes / slides developed
  - Authored textbooks
    “Signals and Systems: Course Notes”, by A. P. Liavas and G. N. Karystinos

B – Publications

Publications in refereed journals
Submitted


Accepted


Publications in refereed conferences

Submitted: those accepted (see below)

Accepted:


Published


C – Awards & Distinctions

D – Funded Projects

Current projects
PI of FP6 MC-IRG project “Power and rate efficient modulation in UHF-SHF multicarrier communications.”
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) 2009 - Communication Theory Symposium.
IEEE International Conference on Communications (ICC) 2010 - Wireless Communications Symposium

Conference Organization (specify role)

Reviewing activities
Reviewer for journals
- IEEE Transactions on Vehicular Technology
- IEEE Transactions on Mobile Computing
- IEEE Transactions on Signal Processing
- IEEE Transactions on Wireless Communications
- IEEE Communications Letters
- Information Theory
- IEEE Trans. on Communications
- IEEE Signal Processing Letters
- Wireless Communications and Mobile Computing

Reviewer for conferences
- IEEE GLOBECOM 2009
- IEEE VTC 2009 (Fall)
Reviewer for books

- “Space-time coding for non-coherent cooperative communication”, chapter in book titled “Cooperative Communications for Improved Wireless Network Transmission.”

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

**Departmental responsibilities**
Organized the 2008-2009 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. 2008 - Aug. 2009.

**School-level responsibilities**
Member of the Senate of the Technical University of Crete, Sept. 2008 - Aug. 2009.

**G – Advising**

**Active graduate students supervised**
Ph.D. and M.Sc. students supervised
- Dimitris Koupatsiaris, “Efficient techniques for the problem of channel decoding,” Ph.D. student.
- 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)
- Nikolaos Kolomvakis, “Zero-error varying-length distributed source coding.”
- Anastasia Barkalaki, “Rank-deficient quadratic form maximization with a binary vector: Parallelization and implementation in C.”
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Polychronis Koutsakis
Rank: Assistant Professor (tenure-track)
Years in rank: 1
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information & Networks Laboratory

A – Teaching

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

• Curriculum & course development
  o New courses / labs developed
  o Lecture notes / slides developed: Slides for the undergraduate course “Introduction to Modeling and Performance Evaluation of Communication Networks”
  o Authored textbooks

B – Publications

Publications in refereed journals

Submitted: those published/appeared (see below)

Wireless LAN Infrastructure”, submitted to the *IEEE Transactions on Multimedia*.


### Accepted:


### Published:


Publications in refereed conferences

Submitted: those published/appeared (see below)

- **P. Koutsakis**, “Call Admission Control for Wireless Videoconference Traffic Based on the Users’ Willingness to Pay”, submitted to the *IFIP Wireless Days 2009*.

### Published:


C – Awards & Distinctions

D – Funded Projects

Current projects:

*September 2009- August 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.

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

Conference Technical Program Committee service
IEEE GLOBECOM 2008 Symposium on Wireless Networking
ACS/IEEE Workshop on Radio Resource Management in Wireless Mesh Networks 2008 (RRMinMesh’08)
ACM International Workshop on Performance and Analysis of Mobile and Wireless Networks 2008 (PAMWN 2008)
17th IEEE International Conference on Computer Communication and Networks (ICCCN) 2008 – Network Algorithms and Performance Evaluation Track
7th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2008)
IEEE International Conference on Wireless Communications and Mobile Computing (IWCMC) 2008 – General Symposium
3rd International Conference on Pervasive Computing and Applications (ICPCA 08)
IEEE Conference on Local Computer Networks (LCN) 2008
IFIP International Conference on Embedded and Ubiquitous Computing (EUC) 2008 - Network Protocol Track
International Conference on Access Networks (AccessNets 2008)
IEEE CCNC 2009 – Short Papers Session
IEEE ICC 2009 – Wireless Networking Symposium
IEEE ICC 2009 – Wireless Communications Symposium
7th IEEE International Conference on Pervasive Computing and Communications (PerCom) 2009
8th International Conference on Networks (ICN 2009)
8th IEEE/ACIS International Conference on Computer and Information Science (ICIS 2009)
IEEE CCECE 2009
International Computer Science and Technology Conference (ICSTC) 2009
IEEE International Conference on Wireless Communications and Mobile Computing (IWCMC) 2009 – General Symposium
IEEE Workshop on Mobility and its Applications 2009 (in conjunction with the 5th IEEE International Conference on Wireless Communications and Mobile Computing (IWCMC) 2009)

Conference Organization (specify role)
Technical Program Co-Chair for the 4th ACM Workshop on Wireless Multimedia Networking and Performance Modeling (WMuNep, in conjunction with the ACM MSWiM), October 2008, Vancouver, Canada.

Reviewing activities
IEEE Transactions on Mobile Computing
IEEE Transactions on Broadcasting
IEEE Transactions on Circuits and Systems for Video Technology
ACM Wireless Networks Journal
IET Signal Processing
Wireless Personal Communications Journal (Springer Publ.)
Computer Networks Journal (Elsevier Science Publisher)
Computer Communications Journal (Elsevier Science Publisher)
Journal of Network and Computer Applications (Elsevier Publ.)
Journal of the Franklin Institute (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.)
Journal of Virtual Reality and Broadcasting (Duesseldorf University of Applied Sciences)

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
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Athanasios Liavas
Rank: Associate Professor
Years in rank: 5 1/2
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

Undergraduate courses taught
Telecommunications Systems II
Wireless Communications

Graduate courses taught
Information Theory

• Curriculum & course development
  o New courses / labs developed
  o Lecture notes / slides developed
    A. P. Liavas and G.N. Karystinos Lecture Notes on “Signals & Systems”
  o Authored textbooks

B – Publications

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

Accepted:


C – Awards & Distinctions

D – Funded Projects

Current projects:


E – Professional service

Associate Editor duties

*IEEE Transactions on Signal Processing* (4 years of service in total)

Society Technical Committee duties


Conference Technical Program Committee service

SPAWC 2009

Reviewing activities

*IEEE Transactions on Signal Processing, IEEE Transactions on Wireless Communications, ICASSP09, SPAWC09.*

F – Service to the Department and the School

School-level responsibilities

Member of the Library Committee of the TUC.
G – Advising

Active graduate students supervised
Ph.D. and M.Sc. students supervised
  Despoina Tsipouridou (Ph.D. Candidate, 3rd year in program)
  Ioannis Kardaras (Msc Student, 1st year in program)
  Emmanouil Matigakis (Msc Student, 1st year in program)

PhD. And M.Sc. degrees awarded

Undergraduate students supervised
Diploma theses in progress (supervisor)
  Aleksios Balatsoukas
  Despoina Georgiadou
Diploma theses completed (supervisor)
  Emmanouil Matigakis
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: September 1, 2008 to August 31, 2009

Name: Michael Paterakis
Rank: Professor
Years in rank: 10
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information and Computer Networks Laboratory

A – Teaching

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

B – Publications

Publications in refereed journals

Published


C – Awards & Distinctions

D – Funded Projects

Current projects:

“Technical Consultant of the National Administrative Authority of the Information Society Program for the project: Design, Development and Construction of Broadband Fiber Optic-Based Metropolitan Area

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


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.

G – Advising

Active graduate students supervised

M.Sc. degrees awarded

Moisis Vafiadis, M.Sc., ECE Dept., Tech. Univ. of Crete, Completion Time: Summer 2009, co-supervision with Assistant Prof. P. Koutsakis, ECE Dept., Tech. Univ. of Crete.


Sotiris Bouros, M.Sc., ECE Dept., Tech. Univ. of Crete, Completion Time: Fall 2009.


M.Sc. students supervised

Sotiris Bouros

Moisis Vafiadis, co-supervision with Assistant Prof. P. Koutsakis.
Name: Alexandros Potamianos
Rank: Associate Professor
Years in rank: 6+1/2
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information and Computer Networks Laboratory

A – Teaching

Undergraduate courses taught
TEL 411 – Natural Language Processing
TEL 303 – Statistical Modeling and Pattern Recognition
TEL 211 – Probability and Random Processes (with V. Digalakis)

Graduate courses taught
TEL 611 – Natural Language Processing

○ Curriculum & course development
  ○ Notes for TEL 303

B – Publications

Publications in refereed journals
Submitted
Accepted

Published

Publications in refereed conferences
Submitted/Accepted/Published

C – Awards & Distinctions

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:

CHANGE!, "Peripheral Technologies for Human Change", EU-IST FP7
BabyExp, "Acquiring Commonsense Knowledge Like Children Do", EU-IST FP7

E – Professional service

Conference Reviewer Committee
ICASSP 2009
Conference Organization
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-
Pirros Tsiakoulis (Ph.D.) (co-supervised with Prof. Karagiannis), Natl. Tech. Univ. of Athens, 2005-
Ioannis Klasinas (Ph.D.) (co-supervised with Dr. Daoudi), IRIT-France, 2008-
Spyros Dimopoulos (M.Sc.), 2007-
Theodosis Moschopoulos (M.Sc.), 2008-
Nikos Malandrakis (M.Sc.), 2008-
Maria Giannoudaki (M.Sc.), 2008-

M.Sc. degrees awarded
Thanasis Tegos, (M. Sc.) 2009
Theofanis Kanetis (M.Sc.), 2009

Undergraduate students supervised
Diploma theses in progress (supervisor)
Vasiliki Kouloumenta
Afroditi Maragouli
Fani Tsapeli
Panagiotis Keramidas
Stylianos Mammas
Giorgos Evgeniadis

Diploma theses completed (supervisor)
Vasso Farantouri
Alkis Bakaros
Georgia Tsakogianni
Theodosis Moschopoulos
Nikos Georgantonis
Isidoros Rodomagoulakis
Spyros Meliopoulos
Vaios Bakirtzoglou
Giorgos Skoumas
Annual Activity Report

For the period: Sep. 1, 2008 to Aug. 31, 2009

Name: Nikos Sidiropoulos
Rank: Professor
Years in rank: 7+1/2
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

Undergraduate courses taught
   TEL 301 – Telecommunication Systems I (Fall 2008)
   TEL 502 – Statistical Signal Processing for Communications (Spring 2009)

Graduate courses taught
   TEL 60x – Convex Optimization (Spring 2009)

   Labs taught
      TEL 301 – Telecommunication Systems I Lab (Fall 2008)

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

B – Publications

Publications in refereed journals
Submitted
   A.B. Gershman, N.D. Sidiropoulos, S. Shahbazpanahi, M. Bengtsson, and B. Ottersten, "Convex Optimization-based Beamforming:"


Accepted


Published


A. Valyракис, E. Tsакonas, N.D. Sidiropoulos, A. Swami, "Stochastic Modeling and Particle Filtering Algorithms for Tracking a


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

- IEEE Fellow (Nov. 2008) for contributions to signal processing for communications
- Appointed member of the Greek National Research and Technology Council (ΕΣΕΤ), 2008-

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 projects COOPCOM (PI: A. Liavas); N-CRAVE (PI: L. Tassiulas)

Project proposals submitted:
Submitted FP7/ICT SONET-ACORN proposal (passed threshold, but not funded), HERAKLEITOS-II proposal (results not out yet), TUC/ELKE proposal (funded), participated in REGPOT-II group proposal (passed threshold, but not funded)

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
  Member, Sensor Array and Multichannel Signal Processing Technical Committee, IEEE Signal Processing Society

Conference Technical Program Committee service
IEEE ICASSP 2009
TRICAP 2009
IEEE CAMSAP 2009

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

Reviewing activities

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

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

School-level responsibilities
Associate Director and Member of the Board, Telecommunication Systems Institute, Technical University of Crete.
Member, Επιτροπή Αναμόρφωσης Εσωτερικού Κανονισμού Πολυτεχνείο Κρήτης

**G – Advising**

Active graduate students supervised
Ph.D. and M.Sc. students supervised
Dimitris Evaggelinakis (M.Sc). Year of initial enrollment in program: 2007.
Vassilis Ntranos (M.Sc.), “Marketing resource allocation in social networks”.
Ioannis Mitliagas (M.Sc.), “Distributed Admission and Power Control in Wireless Networks”.

PhD. And M.Sc. degrees awarded

Undergraduate students supervised
Diploma theses in progress (supervisor)
Vaggelis Papalexakis, “Reviewer profiling using factor analysis”.
Ioannis Sarris, “Social network analysis using multi-dimensional scaling”.
Konstantinos Apostolou, “Crosstalk onset detection and rate back-off in xDSL”.
Diploma theses completed (supervisor)
Vassilis Ntranos, “Multicast beamforming for minimum outage”.
Ioannis Mitliagas, “Joint Admission and Power Control in Wireless Networks”.