Kouretes is our Department’s robotic soccer team, led by Assistant Professor Michael Lagoudakis (ECE), with contributions by Assistant Professor N. Vlassis (DPEM). Kouretes came back from RoboCup 2008 in Suzhou, China with two trophies! 1st place in the SPL-MSRS league and 3rd place in the SPL-Nao league.
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 22 (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.

Dionisios Pnevmatikatos
pnevmati@ece.tuc.gr
Sep. 2007 – August 2008 Awards and Honors

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

**Outreach - popularizing science & engineering**

**Kouretes** made headlines at Robocup 2007, Atlanta, GA, U.S.A. (Kouretes ranked 2nd in the Microsoft Simulation Challenge) and Robocup 2008, Suzhou, China: (Kouretes ranked 1st in the SPL-MSRS, and 3rd in the SPL-Nao). Kouretes made headlines in the national media this year, with special articles (To Vima, Kathimerini) and live TV coverage (NET - the Greek public TV network, and MEGA channel). Kouretes is led by Assistant Professor Michail Lagoudakis. Such publicity does wonders in exciting present and prospective students. More information @


**Paper Awards**


**New Grants**

**Research Grant Capacities Programme (Research for the benefit of SMEs)** to Yiannis Papaefstathiou  
Title: *Open Source MOdelling and hardware Software codesIgn of embedded Systems (OSMOSIS)*  
December 2007

**Marie Curie Research Grant - Industry Academia Partnership and Pathways (IAPP)** to Matthias Bucher  
Title: *COmpact MOdelling Network (COMON)*  
October 2007

**STREP Research Grant (Call 1, FP7)** to Yiannis Papaefstathiou  
Title: *Ad-hoc PAN & WIREless Sensor SEcure NETwork (AWISSENET)*  
October 2007

**European Research Grant iQTOOL Lifelong Learning Programme 2007-2013** to Stavros Christodoulakis  
Title: *Innovative eLearning Tool for Quality Training Material in VET*  
December 2007

**Recent Alumni Awards**

**European Young Investigator Award (EURYI)** to Alumnus Anastasia Ailamaki  
Title: *Efficient data management for scientific applications*  
September 2007

**Recent Honorary Awards**

Appointment of Nikos Sidiropoulos to the National Council for Research and Technology, Member of the Division of Computer Science, Telecommunications, Systems, March 2008

IEEE Signal Processing Society Distinguished Lecturer 2008-2009 to Nikos Sidiropoulos. Lectures program by distinguished member to various chapters around the world, October 2007
Telecommunications Division

Faculty members:

- Vassilios Digalakis, Professor
- Michael Zervakis, Professor
- Georgios Karystinos, Assistant Professor
- Athanasios Liavas, Associate Professor
- Michael Paterakis, Professor
- Alexandros Potamianos, Associate Professor
- Nikolaos Sidiropoulos, Professor
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: September 1, 2007 to August 31, 2008

Name: Vassilis Digalakis
Rank: Professor
Years in rank: 8
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information & Computer Networks Lab

A – Teaching

• Undergraduate courses taught
  o Introduction to speech processing
  o Probabilities and Random Signals

• Graduate courses taught
  o Advanced topics in speech processing

B – Publications

• Publications in refereed journals
  o Submitted
    ▪ P. Papadopoulos, V. Digalakis and V. Diakoloukas, “Maximum Likelihood Estimation of Identifiable Linear Dynamical Systems with an application to Speech Recognition”.

• Publications in refereed conferences
  o Published
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)
  - Μοντελοποιηση, Συνθεση Και Αναγνωριση Φωνης Με Υπολογιστικη Αεροδυναμικη Αναλυση Του Ανθρωπινου Ηχητικου Σωληνα, ΠΕΝΕΔ, Co-PI, PI’s Budget € 180.000.
- Project proposals submitted:

E – Professional service

- Reviewer in several journals.
- ICASSP 2008 Reviewer
- Interspeech 2008 Reviewer
- Conference Organization (specify role)
  - Co-Chair for ACM-IEEE ICMI 2008 workshop

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
  - Vice President and Board Member, Company for Management and Exploitation of TUC’s property
G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Costas Charizakis, PhD, 2003
    - Chris Vosnidis, PhD, 2004
    - Dimitris Oikonomidis, PhD, 2003
    - Orfeas Tsergoulas, MSc, 2007
    - Kostas Athanasoglou, MSc, 2007
    - George Stylianakis, MSc, 2008
- Undergraduate students supervised
  - Chris. Boubousis
Annual Activity Report

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

Name: Michalis Zervakis
Rank: Professor
Years in rank: 9
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Digital Image and Signal Processing Lab, Lab of Automation

A – Teaching

- Undergraduate courses taught
  - Digital Signal Processing
  - Digital Image Processing
  - Computer Vision

- Graduate courses taught
  - Pattern Recognition

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

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

Conference Papers


10. G. Tsagkatakis, M. Zervakis, A. Savakis, “Multiple description based image transmission with low density parity check codes”, ICIP 2008, San Antonio, TX, USA.


**Journal Papers**


**Book Chapters**


**Submitted Papers- Under Review**

• Patents: none

C – Awards & Distinctions

D – Funded Projects

2004-2008  Principal investigator for TUC, project BIOPATTERN: Computational intelligence for biopattern analysis in support of eHealthcare, Network of Excellence, FP6. Total budget 3,400,000 euros, PI’s budget 264,630 euros

2006-2008  Getting Cretan Businesses On-Line and Doing E-Business (eKONES)
Principle investigator for TUC
Funding Agency: Ministry of Development, General Secretariat for Research and Technology.
TUC budget 30.000 Euro

2006-2008  Meta-Genomic Methods and Technologies for Diagnosis and Therapy Selection: Analysis of Genotype and Molecular Markers (GONOTYPOS)
Principle investigator for TUC
Funding Agency: Ministry of Development, General Secretariat for Research and Technology.
Total budget 871.000 euros, TUC budget 100.000 Euro

2006-2008  Integrated Inspection System supported by Automated Motion Detection
Co-Principal investigator for TUC, (PI for TUC Euripides Petrakis)
Funding Agency: Ministry of Development, General Secretariat for Research and Technology
Total budget 800.000 Euros, TUC Budget 244,402 Euro 2006

2006-2008  District Technology Platform for Wideband Health Services
Principle investigator for TUC
Funding Agency: District of Crete under the Programme “Poles of Innovation”

• Project proposals submitted:
  ▪ During the 3rd Call of ICT participated in the submission of three STREPs

E – Professional service

• Associate Editor duties
• Society Technical Committee duties
- Session Chair CIMED-07
- Session Chair: 8th IEEE International Conference on BioInformatics and BioEngineering (BIBE 2008).

- Conference Technical Program Committee service
  - Programme Committee Member: CIMED-07 (European Symposium on Artificial Neural networks).
  - Co-Organizer: 6th European Symposium on Biomedical Engineering, IFMBE, Chania, 2008

- Conference Organization (specify role)
- Reviewing activities:
  - Participation in National Committees (e.g., EΔΕΤ)
  - Other
    - External reviewer for one PhD thesis from 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
  - Stefanos Goumas, PhD, Dept. ECE, TUC, June 2008.
  - Michalis Blazantonakis, PhD, Dept. ECE, TUC, June 2008.

- Active graduate students supervised
  - Ioannis Dimou PhD student
  - Michalis Kounelakis, PhD student
  - George Manikis MSc student (completed degree)
  - Kostantina Moirogiorgou MSc student
  - George Livanos MSc student
  - Kostas Michalopoulos MSc student

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
- Over 10
- Diploma theses completed (supervisor):
  - I don’t remember
- Diploma theses in progress (committee member):
  - I don’t remember
- Diploma theses completed (committee member)
  - I don’t remember
Annual Activity Report

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

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

A – Teaching

- Undergraduate courses taught
  - TEL 201 – Signals and Systems (Fall 2007)
  - TEL 412 – Information Theory and Coding (Spring 2008)

- Graduate courses taught
  - TEL 601 – Probability and Random Processes (Fall 2007)

- Labs taught
  - TEL 201 – Signals and Systems Lab (Fall 2007)
  - TEL 412 – Information Theory and Coding Lab (Spring 2008)

- Curriculum & course development
  - New courses / labs developed
  - Lecture notes / slides developed
    - TEL 201 – Signals and Systems (Fall 2007)
    - TEL 412 – Information Theory and Coding (Spring 2008)
    - TEL 601 – Probability and Random Processes (Fall 2007)
  - Authored textbooks
B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted
  - Published

- Publications in refereed conferences
  - Submitted: those accepted or published (see below)
  - Accepted: those published (see below), plus
  - Published
    - **G. N. Karystinos** and A. P. Liavas, “Outage capacity of a cooperative scheme with binary input and a simple relay,” in *Proc.*


- Books and edited book chapters
- Patents

**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
- Conference Organization (specify role)
• Reviewing activities
  o Reviewer for journals
    ▪ IEEE Trans. on Information Theory
    ▪ IEEE Trans. on Communications
    ▪ IEEE Trans. on Wireless Communications
    ▪ IEEE Trans. on Signal Processing
    ▪ IEEE Transactions on Vehicular Technology
    ▪ IEEE Signal Processing Letters
    ▪ Wireless Communications and Mobile Computing
  o Reviewer for conferences
    ▪ IEEE GLOBECOM 2008 - Global Communications Conference
    ▪ IEEE ICC 2008 - International Conference on Communications
    ▪ IEEE VTC 2008 (Spring) – Vehicular Technology Conference

F – Service to the Department and the School

• Departmental responsibilities
  o Organized the 2007-2008 Telecommunications Division Seminar Series, Department of Electronic and Computer engineering, Technical University of Crete.

• School-level responsibilities

G – Advising

• Active graduate students supervised
  ▪ Dimitris Papailiopoulos, “Maximum-likelihood noncoherent orthogonal STBC detection is polynomially solvable.”
  ▪ Georgina Abou-Elkheir, “Finite-feedback beamforming under uniform transmit antenna power requirements with polynomial complexity.”
  ▪ Stamatis Andrianakis, “Software-defined-radio implementation of signal design and processing techniques in wireless systems.”

• Undergraduate students supervised
  o Diploma theses completed (supervisor)
    ▪ Dimitris Papailiopoulos, “Efficient maximum-likelihood block noncoherent MPSK detection in SIMO wireless systems.”
Annual Activity Report

For the period: Sep. 1, 2006 to Aug. 31, 2007

Name: Athanasios P. Liavas
Rank: Associate Professor
Years in rank: 4+1/2
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught
  - TEL 501 – Mobile Telecommunication Systems and Networks (Fall 2007)
  - TEL 311 – Telecommunication Systems II (Spring 2008)

- Graduate courses taught
  - TEL 609 – Information Theory (Fall 2007)
  - TEL 610 - Special Topics in Data Networks (Wireless and multiuser wireless systems) (Spring 2008)

- Labs taught
  - TEL 311 – Telecommunication Systems II Lab (Spring 2006)

- Curriculum & course development
  - New courses / labs developed
    - Operation and code development for wireless software defined radio platform USRP
  - Lecture notes / slides developed
    - Wireless Communications (in Greek)
  - Authored textbooks
B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted
  - Published

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

- Books and edited book chapters
- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
• TUC 2-year research project: “Dynamic spectrum allocation” (with Emmanouil Matigakis)
  ▪ Project proposals submitted:

E – Professional service

▪ Associate Editor duties
  ▪ Associate Editor, IEEE Transactions on Signal Processing
▪ Society Technical Committee duties
▪ Conference Technical Program Committee service
  ▪ SPAWC 2008
▪ Conference Organization
  ▪ ISWPC 2008 (Special session organizer: “Cooperative and opportunistic communications”).
▪ Reviewing activities

F – Service to the Department and the School

▪ Departmental responsibilities
  ▪ Member, Library Committee
▪ School-level responsibilities

G – Advising

▪ Active graduate students supervised
  ▪ Ph.D. and M.Sc. students supervised
    ▪ Despoina Tsiouridou (PhD), Year of initial enrollment in PhD program: 2006.
▪ Undergraduate students supervised
  ▪ Diploma theses in progress (supervisor)
    ▪ Aleksandros Balatsoukas
    ▪ Despoina Georgiadou
  ▪ Diploma theses completed (supervisor)
    ▪ Emmanouil Matigakis
    ▪ Ioannis Kardaras
Annual Activity Report

For the period: September 1, 2007 to August 31, 2008

Name: Michael Paterakis  
Rank: Professor  
Years in rank: 9  
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
  - Submitted
  - Accepted


Publications in refereed conferences

- Submitted
- Accepted
- Published


C – Awards & Distinctions

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

• Departmental responsibilities

• 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
  
  ○ Ph.D. students supervised
    
    Spyros Psychis.
  
  ○ M.Sc. degrees awarded
    
    Aggelos Lazaris, M.Sc., ECE Dept., Tech. Univ. of Crete, Completion Time: Fall 2008, co-supervision with Assistant Prof. P. Koutsakis, ECE Dept. McMasters Univ, Canada.
  
  ○ M.Sc. students supervised
    
    ▪ Sotiris Bouros.
    ▪ Moisis Vafiadis, co-supervision with Assistant Prof. P. Koutsakis.

• Undergraduate students supervised
Annual Activity Report

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

Name: Alexandros Potamianos  
Rank: Associate Professor  
Years in rank: 5+1/2  
Full-time or part-time: Full-time  
Division: Telecommunications  
Lab affiliation: Speech and Dialogue Group

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
  - Updated presentations for TEL 411
  - Created presentations for TEL 611

B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted
  - Published

- Publications in refereed conferences
  - Submitted/Accepted/Published
- M. Maragakis and A. Potamianos, "Region-Based Vocal Tract Length Normalization for ASR", in Proc. *Interspeech*, Brisbane, Australia, Sept. 2008.

- Books
Edited book chapters


- Edited book chapters

- Patents

**C – Awards & Distinctions**

**D – Funded Projects**

- Current projects (Principal Investigator):

- Current projects (collaborator):
  - PENED: Multimodal platforms for mobile devices, GRST, PI: V. Digalakis

- Project proposals submitted:
  - ME-KNOW, "Content Creation for Children", EU-IST FP7
  - C-MUSCLE, "Cognitive Multimedia Understanding", EU-IST FP7
E – Professional service

- Conference Reviewer Committee
  - ICASSP 2008
- Conference Organization
  - General Co-Chair for ACM ICMI 2008 conference
  - General Co-Chair for WOCCI 2008 workshop
- 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-
    - Thanasis Tegos, (M. Sc.) (co-supervised with Dr. Karkaltsis, Demokritos Research Center), 2005-
    - Theofanis Kanetis (M.Sc.), 2006-
    - Spyros Dimopoulos (M.Sc.), 2007-
    - Anthi Markaki (M.Sc.), 2008-
  - M.Sc. degrees awarded
    - Michalis Toutoudakis (M. Sc. degree awarded), 2007.
    - Ioannis Klasinas (M. Sc. degree awarded) 2008.
    - Michail Maragkakis (M. Sc. degree awarded) 2008.

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Vasso Farantouri
    - Alkis Bakaros
    - Georgia Tsakogianni
    - Theodosis Moschopoulos
- Nikos Georgantonis
- Isidoros Rodomagoulakis
- Spyros Meliopoulos
- Vaios Bakirtzoglou
- Vasiliki Kouloumenta
- Giorgos Skoumas
- Afroditi Maragouli

  - Diploma theses completed (supervisor)
    - Spyros Dimopoulos
    - Nikos Malandrakis
    - Anthi Markaki
Annual Activity Report

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

Name: Nikos Sidiropoulos
Rank: Professor
Years in rank: 6+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 2007)
  - TEL 502 – Statistical Signal Processing for Communications (Spring 2008)

- Graduate courses taught
  - TEL 60x – Convex Optimization (Spring 2008)

- Labs taught
  - TEL 301 – Telecommunication Systems I Lab (Fall 2007)

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

B – Publications

- Publications in refereed journals
  - Submitted


- Accepted

- Published
  - G. Latsoudas, N.D. Sidiropoulos, ``A Fast and Effective Multidimensional Scaling Approach for Node Localization in

- Publications in refereed conferences
  - Submitted: same as published (see below), except for the two CAMSAP 2007 papers, which were submitted in the previous reporting period.
  - Accepted: same as published (see below)
  - Published

- Books and edited book chapters
- Patents

**C – Awards & Distinctions**
- Appointed member of the Greek National Research and Technology Council (ΕΣΕΤ), 2008-

**D – Funded Projects**

- Current projects:
  - Participant in FP6 projects **COOPCOM** (PI: A. Liavas); **WIP** (PI: L. Tassiulas)

**E – Professional service**

- Society Technical Committee duties

- Conference Technical Program Committee service
  - IEEE ICASSP 2008
  - IEEE SPAWC 2008

- Conference Organization (specify role)
  - General Co-Chair (with R. Rao, RIT) for *IEEE CAMSAP 2007* Workshop, St. Thomas, U.S. Virgin Islands, Dec. 12-14, 2007: [CAMSAP2007](#)
• Technical Program Committee co-Chair (with B. Sadler, ARL) for IEEE SAM 2008 Workshop, July 21-23, Darmstadt, Germany: SAM2008

• 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.
  o PhD. And M.Sc. degrees awarded
    ▪ Alexandros Valyrakis (M.Sc.). Year of initial enrollment in program: 2004.

• Undergraduate students supervised
  o Diploma theses in progress (supervisor)
    ▪ V. Ntranos, “Multicast beamforming for minimum outage”.
    ▪ Ioannis Mitliagas, “Joint Admission and Power Control in Wireless Networks”.
    ▪ Euthemios Tsakonas, “Particle filtering tools for tracking a time-varying harmonic”.
    ▪ Georgina Abouelxir, “Experimental evaluation of PHY-layer multicasting algorithms using measured wireless channel data”.

- Valentina Oikonomakou, “Spectrogram segmentation-based tracking of a frequency-hopped signal”.
- Diploma theses completed (supervisor)
  - Ioannis Mitliagas, “Joint Admission and Power Control in Wireless Networks”.
  - Euthemios Tsakonas, “Particle filtering tools for tracking a time-varying harmonic”.
  - Georgina Abouelxir, “Experimental evaluation of PHY-layer multicasting algorithms using measured wireless channel data”.
  - Valentina Oikonomakou, “Spectrogram segmentation-based tracking of a frequency-hopped signal”.
Computer Engineering Division

Faculty members:

- Antonis Deligianakis, Assistant Professor
- Michalis Lagoudakis, Assistant Professor
- Katerina Mania, Assistant Professor
- Euripides Petrakis, Associate Professor
- Vassilis Samoladas, Assistant Professor
- Stavros Christodoulakis, Professor
Annual Activity Report

For the period: 16/04/2008 to 31/08/2008

Name: Antonios Deligiannakis
Rank: Assistant Professor
Years in rank: 1
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Software Technology and Network Applications Laboratory

A – Teaching

- Undergraduate courses taught
  - COMP 111: “Structured Programming”
  - K23: “System Programming” (University of Athens – Department of Informatics & Telecommunications)

- Graduate courses taught
  - NONE

- Labs taught
  - NONE

- Curriculum & course development
  - Developed course COMP 506: “Data Management and Processing in Sensor Networks”
  - Developed slides for the courses COMP 111: “Structured Programming” and COMP 506: “Data Management and Processing in Sensor Networks”
B – Publications

- Publications in refereed journals
  - Dimitris Sacharidis, Antonios Deligiannakis and Timos Sellis. Hierarchically Compressed Wavelet Synopses. Accepted for publication at the VLDB Journal (available online at: http://www.springerlink.com/content/b45211151j0u7117/)

- Publications in refereed conferences
  - Antonios Deligiannakis, Yannis Kotidis, Vasilis Vassalos, Vassilis Stoumpos and Alex Delis. “Another Outlier Bites the Dust: Computing Meaningful Aggregates in Sensor Networks”. Accepted for publication at the International Conference on Data Engineering (ICDE), to take place March 29-April 4, 2009 at Shanghai, China.
  - Mihaela Bornea, Vasilis Vassalos, Yannis Kotidis and Antonios Deligiannakis. “Double Index Nested-loop Reactive Join for Result Rate Optimization”. Accepted for publication at the International Conference on Data Engineering (ICDE), to take place March 29-April 4, 2009 at Shanghai, China.

- Books and edited book chapters

C – Awards & Distinctions

D – Funded Projects

E – Professional service

- Member of PC Committee of ACM International Workshop on Data Warehousing and OLAP (DOLAP), IEEE ICDE 2009 Demo Program.
• Reviewer for IEEE TKDE, ACM TODS, IEEE Transactions on Parallel and Distributed Systems, Distributed Computing

F – Service to the Department and the School

• Departmental responsibilities

• School-level responsibilities
  o Researcher Fellow at the Digital Curation Unit, Athena Research Center

G – Advising

• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ Co-supervisor of Vassilis Stoumpos, 2003, University of Athens

• Undergraduate students supervised
Annual Activity Report

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

Name: Michail G. Lagoudakis
Rank: Assistant Professor
Years in rank: 3
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Intelligent Systems Laboratory

A – Teaching

- Undergraduate courses taught
  - COMP 401 – Theory of Computation (Fall 2007)
  - COMP 405 – Artificial Intelligence (Fall 2007)
  - COMP 503 – Autonomous Agents (Spring 2008)

- Graduate courses taught
  - COMP 625 – Autonomous Agents/Computational Perception (Spring 2008)
    co-taught with Euripides Petrakis

- Labs taught
  - COMP 503 – Autonomous Agents Laboratory (Spring 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 level)
B – Publications

- Publications in refereed journals
  - Published
  - Accepted
  - Published

C – Awards & Distinctions

- RoboCup 2008 Competition in Suzhou, China:
  - Team Kouretes ranked 3rd in the Nao Standard Platform League
  - Team Kouretes ranked 1st in the Nao MSRS Simulation League
  - Team Kouretes one of the top 8 teams in the Nao Webots Simulation League
- IEEE Robotics and Automation Society
  - Member of the Technical Committee on Robot Learning

D – Funded Projects

- Projects in progress
- Project proposals submitted
  - Proposal to European Committee for a “Network of Excellence (NOE)”
  - Proposal to European Committee for a “Cooperation in the field of Scientific and Technical Research (COST)”
  - Proposal to the TUC Research Office, Call for basic research grants

E – Professional service

- Conference Technical Program Committee service
  - 23rd *AAAI Conference on Artificial Intelligence (AAAI-08)*
  - 5th *Hellenic Conference on Artificial Intelligence (SETN 08)*
  - 25th *International Conference on Machine Learning (ICML 2008)*
  - 2008 *European Workshop on Reinforcement Learning (EWRL’08)*
  - *Conference on Learning and Intelligent Optimization 2008 (LION 2008)*
- Conference Organization (specify role)
Reviewing activities
- Automatica
- *IEEE International Conference on Robotics and Automation (ICRA-08)*
- *IEEE Transactions on Systems, Man, and Cybernetics - Part B: Cybernetics*
- Journal of Autonomous Agents and Multi-Agent Systems (JAAMAS)
- *International Journal on Artificial Intelligence Tools (IJAIT)*
- Neurocomputing
- 23rd *AAAI Conference on Artificial Intelligence (AAAI-08)*
- 5th *Hellenic Conference on Artificial Intelligence (SETN 08)*
- 25th *International Conference on Machine Learning (ICML 2008)*
- 2008 European Workshop on Reinforcement Learning (EWRL'08)
- Conference on Learning and Intelligent Optimization 2008 (LION 2008)

F – Service to the Department and the School

- Departmental responsibilities
  - Editor of the Undergraduate Program Guide
  - Web mastering and maintenance of www.ece.tuc.gr
  - Faculty search visit coordinator (Computer Science Division)
- School-level responsibilities
  - Member of the University Senate
  - Editorial Board of the “TUC News” publication

G – Advising

- Graduate students
  - Ph.D. and M.Sc. theses in progress (supervisor)
  - Ph.D and M.Sc. theses completed (committee member)
    - Rena Peraki (M.Sc.), “Requirements Analysis for Medical Information System Design”, April 2008
  - Ph.D and M.Sc. theses in progress (committee member)
    - Alejandro Mosteo (Ph.D. program), University of Zaragoza, Spain
    - Visiting student at TUC

- Undergraduate students
  - Diploma theses completed (supervisor)
    - Vasileios Skourtis, “Implementation of a Software Framework for Auction-Based Multi-Agent Coordination”
    - Georgios Kontes, “Coordinated Team Play in the RoboCup Four-Legged League”
    - Konstantinos Makantasis, “Human Face Recognition and Active Tracking with the Four-Legged AIBO Robots”
    - Suzanna Volioti, “Histogram-Based Visual Object Recognition for the 2007 Four-Legged Robocup League”
  - Diploma theses in progress (supervisor)
    - Georgios Pierris, “An Interactive Tool for Designing Complex Robot Motion Patterns”
    - Alexandros Paraschos, “Bipedal Robot Walk using Programmable Central Pattern Generators”
    - Andreas Panakos, “Robust Color Segmentation for RoboCup Images”
    - Dimitrios Katsaitis, “Estimation of 3D Camera Ego-Motion and Depth from Sequences of Images”
    - Emmanouel Vardakis, “Path Planning and Motion Control for a Non-Holonomic Vehicle”
    - Vassileios Vasilikos, “Reinforcement Learning for Recursive Algorithm Selection in Heuristic Search”
    - Vlassis Dimitriades, “Learning to Play Strategic Games”
    - Stylianos Tsigdinos, “Learning to Play Backgammon using Reinforcement Learning”
    - Ioannis Skoulakis, “Learning to Play the Game Neighbors”
    - Konstantinos Haldezos, “Interactive Robot Gaming”
    - Ioannis Vasileiou, “Development of a Calorimeter Application for Mobile Phones”
    - Nikolaos Papoulias, “High-Level Debuggers, Facilities, and Interfaces”
    - Lefteris Tsalas, “GeoRSS Firefox Plugin”
  - Diploma theses completed (committee member)
    - Stergios Taris, “Programming, analysis and simulation of operation of programmable logic controller in the Komotini station of public gas enterprise”, May 2008
    - Savvas Petrou, “Efficient Browsing In Medical Databases”, July 2008
Student team projects
  o Founder and co-leader of the robotic soccer team Kouretes (www.kouretes.gr), the first Greek team participating in the RoboCup competition. Kouretes 2008 consisted of 3 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: 2 years, 9 months
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Distributed Multimedia Information Systems and Applications (MUSIC)

A – Teaching

- Undergraduate courses taught
  - PLH 503 - Computer Graphics (Spring 2008)
  - PLH 101 – Introduction to Computers and Computer Science (C programming)

- Graduate courses taught
  - PLH 612 – Visualization and Virtual Reality (Spring 2008)

- Curriculum & course development
  - New course developed: PLH 612 Visualization and Virtual Reality
  - Lecture notes/slides updated: PLH 101 (C programming).

B – Publications

- Publications in refereed journals
  - Submitted


- **Accepted**

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

- **Published**
C – Awards & Distinctions

D – Funded Projects

- Current projects (at the University of Sussex, UK):

- Current projects (at the Technical University of Crete, Greece):
  - 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:
  - Submitted EU proposals Marie Curie VISUNTY, EU FP7 PERMISSIBLE.

E – Professional service

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

- Conference Technical Program Committee service
  - Member of the program committee of Computational Aesthetics 2008, sponsored by Eurographics, Portugal, June 2008
  - Member of the program committee of Computational Aesthetics 2009, sponsored by Eurographics, Canada, May 2009
  - Member of the program committee of the 1st IEEE International Conference in Games and Virtual Worlds for Serious Applications, Coventry, UK, March 2009
Member of the program committee of the ACM Siggraph Symposium on Applied Perception in Graphics and Visualisation (APGV) 2009, Germany, September 2009, Crete, Greece

Member of the program committee of the ACM Siggraph Symposium on Applied Perception in Graphics and Visualisation (APGV) 2008, Germany, August 2008, Los Angeles, USA

Member of the program committee of the 9th Annual International Workshop on Presence 2008, Italy, October 2008

Member of the program committee of the 9th Annual International Workshop on Presence 2007, Barcelona, Sept. 2007

Program Committee of the IADIS Computer Graphics and Visualization 2008, Netherlands, July 2008

Member of the program committee of 12th International conference on Virtual Systems and Multimedia (VSMM) 2008, Cyprus, Oct. 2008

Member of the program committee of the ACM/IEEE conference on Multimodal Interfaces 2008, Crete, October 2008

Member of the program committee of the Workshop on Hypermedia 3D Internet, France, Oct. 2008

- Conference Organization (specify role)
  - Co-chair of the short papers program: Eurographics 2008, March 2008, Crete, Greece
  - Co-chair of the workshop program, ACM/IEEE conference on Multimodal Interfaces 2008, Crete, Greece
  - General Co-chair of ACM/Siggraph Symposium on Applied Perception in Graphics and Visualisation (APGV) 2009, Crete, Greece

- Reviewing activities

F – Service to the Department and the School

- Departmental responsibilities
  - Substitute member of the Undergraduate Studies committee of the Dept. of Electronic and Computer Engineering (ECE) since 2005-2006
  - Regular Member of the Undergraduate Studies committee of the Dept. of Electronic and Computer Engineering (ECE) since September 2008
  - Regular member of the Graduate Studies committee since September 2007
  - Studies’ advisor for the Dept. of Electronic and Computer Engineering
School-level responsibilities

- Substitute member of the Graduate Studies committee of the Technical University of Crete since September 2007
- Substitute member of the Board of Regents (Siglitos) of the Technical University of Crete since September 2008

G – Advising

Active graduate students supervised

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

- Graduate students (at the Technical University of Crete)
  - Aleksandros Zotos (M.Sc. candidate, year of enrollment Dec. 2007)
  - Giwrgos Papadakis (M.Sc. candidate, year of enrollment Dec. 2007)
  - Giannis Christodoulou (M.Sc. candidate, year of enrollment Sept. 2008)

Undergraduate students supervised (in progress)

- Isidwros Tsouris (Utilizing game engines for visualization)
- Kwnstantinos Sfakianakis (Simulation of the Haas machine)
- Maria Kalenteri (Graphical 3D reconstruction of the ancient site of Delphi using photorealistic graphics)
- Meletis Stathis (Implementation of a networked 3D game)

In many undergraduate project committees and in a PhD examination committee.
Annual Activity Report

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

Name: Euripides G.M. Petrakis
Rank: Associate Professor
Years in rank: 4+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
  o Multimedia Data Management (Fall 2007)
  o Data Structures and Algorithms (Autumn 2008)

• Graduate courses taught
  o Multimedia Data Management (Fall 2007)
  o Autonomous Agents (Autumn 2008, with M. Lagoudakis)

• Labs taught
  o Multimedia Data Management (Fall 2006)
  o Data Structures and Algorithms (Autumn 2007)

• Curriculum & course development
  o Lecture notes & slides developed
B – Publications

• Publications in refereed journals
  o Submitted
    ▪ N. Hourdakis, M. Argyriou, E.G.M. Petrakis, E. Milios, "Hierarchical Clustering and Retrieval in Medical Document Collections using the BIC-Means Method", July 2008, Submitted to Knowledge and Information Systems Journal
  o Accepted
  o Published

• Publications in refereed conferences
  o Submitted:
  o Accepted:
  o Published
• Books and edited book chapters
  o 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):
  o 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.
  o 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, Politechnico di Bari, Akademia Ekonomiczna W Poznnaniu, 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: 265,000 euros
  o Getting Cretan Businesses On-Line and Doing E-Business (April 2006 - April 2008), Funding Agency: Ministry of Development, General Secretariat for Research and Technology, Participants: University of Crete, Technical University of Crete, Technological Institute of Crete, Role: The role of this laboratory is to train consultants that will advise Cretan businesses about the benefits of getting on-line and doing e-business. Grant Holder for TUC: Euripides G.M. Petrakis, Total Budget 2,000,000 euros, TUC’s share: 220,000 euros

- Project proposals submitted:
  o In addition to the above, several (9) new project proposals have also been submitted in EU-FP7 (calls 1 & 2)

E – Professional service

- Associate Editor duties
- Society Technical Committee duties
- Conference Technical Program Committee service
  - Program committee member of “2nd International Symposium on Visual Computing (ISVC07)” Nov. 6-8, 2006 Lake Tahoe, Nevada, USA (http://www.isvc.net/)

- Conference Organization (specify role)

- Reviewing activities

F – Service to the Department and the School

- Departmental responsibilities
  - Laboratory Director, Intelligent Systems Laborarity, 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 Doc (PhD Univ. of Manchester, UK), Natural Language Processing, Text processing, Information Extraction.
    - Paraskevi Raftopoulou, P2P systems.
    - Sotiris Batsakis, Semantic Web.
    - Angelos Hlioutakis, Medical Information Systems
    - Efthimios Drymonas, Ontology Construction from Text.
  - PhD. And M.Sc. degrees awarded
  - Undergraduate students supervised
    - Michalis Argyriou, Dynamic Clustering

- Diploma theses in progress (supervisor)
  - Πύρρος Κωλέτης, Οντολογίες Εικόνων
  - Νίκος Σεπετάς, Σύστημα Διαχείρισης Χρονικών Οντολογιών
  - Λεωνίδας Πάρτσας, Επέκταση Protege για την διαχείριση χρονικών οντολογιών
  - Νίκος Μαρής, Αιτιασμός (reasoning) σε χρονικές οντολογίες
  - Χαράλαμπος Πέτσας, Αναζήτηση εικόνας στο WWW
Diploma theses completed (supervisor)
- Dimitris Siskos «Μεθοδολογίες ανάκτησης πληροφορίας με χρήση οντολογιών σε ιατρικές συλλογές κειμένων», Ιούνιος 2008.
Annual Activity Report

For the period: Sept 1 2007 to Aug 31 2008

Name: Vasilis Samoladas
Rank: Assistant Professor (tenured)
Years in rank: 4
Full-time or part-time: full-time
Division: Computer Science
Lab affiliation: Software technology and network applications (softlab)

A – Teaching

• Undergraduate courses taught
  o ΠΛΗ-301 Λειτουργικά συστήματα
  o ΠΛΗ-302 Αλγόριθμοι και πολυπλοκότητα
  o ΠΛΗ-414 Αρχές κατανεμημένων συστημάτων λογισμικού

• Graduate courses taught
  o ΠΛΗ-602 Αρχές κατανεμημένων συστημάτων λογισμικού

• Labs taught
  o ΠΛΗ-301 Λειτουργικά Συστήματα
  o ΠΛΗ-414 Αρχές Κατανεμημένων Συστημάτων

• Curriculum & course development
  o New courses / labs developed
    o ΠΛΗ-616 Ειδικά θέματα Αλγορίθμων και Πολυπλοκότητας (συνδιδ. με τον κ. Λαγουδάκη)
  o Lecture notes / slides developed
    ▪ Σημειώσεις για το ΠΛΗ-302: Αλγόριθμοι και πολυπλοκότητα
    ▪ Διαφάνειες για το μάθημα “Επεξεργασία Πολυδιάστατων Δεδομένων”
  o Authored textbooks
B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted
  - Published

- Publications in refereed conferences
  - Submitted
    - Michail Zampetakis, Vasilis Samoladas and Apostolos Dollas, A Reconfigurable Accelerator for Quantum Computations, submitted to FPL’08
    - V. Samoladas, Improved BDD Algorithms for the Simulation of Quantum Circuits, submitted to ESA’08
  - Accepted
    - Michail Zampetakis, Vasilis Samoladas and Apostolos Dollas, A Reconfigurable Accelerator for Quantum Computations, accepted to FPL’08
    - V. Samoladas, Improved BDD Algorithms for the Simulation of Quantum Circuits, accepted to ESA’08
  - Published

- Books and edited book chapters

- Patents

C – Awards & Distinctions

D – Funded Projects
• Current projects:
  o
• Project proposals submitted:
  o

E – Professional service

• Associate Editor duties
• Society Technical Committee duties
• Conference Technical Program Committee service
  o ESWC (European Semantic Web Conf.) 2008
  o Program Chair, HDMS 2008 (Hellenic Data Management Symposium)
• Conference Organization (specify role)
• Reviewing activities
  • Reviewer for journals: Future Generation Computing Systems (FGCS)
• Participation in National Committees (e.g., ΕΔΕΤ)
• Other

F – Service to the Department and the School

• Departmental responsibilities
  o Chair, Vice-Chair, Lab Director, NOC director, …
  o Responsibility for Department-wide projects (e.g., ΕΠΕΑΕΚ, practical training, …)

• School-level responsibilities
  o Member of board of regents (Σύγκλητος)
  o ΕΛΚΕ
  o Institute
    ▪ Επιτροπή Μηχανογραφικού
    ▪ Διοικητικό συμβούλιο συλλόγου ΔΕΠ ΠΚ.
  o Other
    o Ιδρυματικός εκπρόσωπος: Μ/Κ Εταιρεία ΕΛ/ΛΑΚ (Ελεύθερου Λογισμικού/Λογισμικού Ανοιχτού Κώδικα) (υπο τον ΕΔΕΤ).

G – Advising

• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ George Hatzisymeon (PhD), 4th year
    ▪ Stergios Charalambakis (MSc), 3rd year
    ▪ Yiannis Botsis (MSc), 3rd year
• Σπύρος Μπλάνας (Msc), 2nd year
  o PhD. And M.Sc. degrees awarded
  o PhD. And M.Sc. degrees awarded (committee member)
    ▪ Μπατσάκης Σωτήρης (MSc)

• Undergraduate students supervised
  o Diploma theses in progress (supervisor)
    ▪ Κώστας Κατάκης
    ▪ Μιχάλης Αργυρίου
    ▪ Γιώργος Τσατσανίφος
    ▪ Χρήστος Στεφάνου
    ▪ Δημήτρης Στρεβίνας
    ▪ Κώστας Κουράτορας
    ▪ Διονύσης Χατζημαρκάκης
    ▪ Πάνος Αϊναλής
  o Diploma theses completed (supervisor)
    ▪ Μιχάλης Αργυρίου
    ▪ Γιώργος Τσατσανίφος
    ▪ Χρήστος Στεφάνου
    ▪ Κώστας Κουράτορας
  o Diploma theses in progress (committee member)
  o Diploma theses completed (committee member)
    ▪ Ζαμπετάκης Μιχάλης
    ▪ Θεοδωράκης Γεώργιος
    ▪ Στυλιανάκης Γιώργος
    ▪ Χριστούλάκης Μάριος
Annual Activity Report

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

Name: Stavros Christodoulakis
Rank: Professor
Years in rank: 19
Full-time or part-time: Full-time
Division: Computer Science
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
  - Submitted:
  - Accepted (in addition to Published):
Published:


Publications in refereed conferences

Submitted:

- Accepted (in addition to published):

Published:


- C. Tsinaraki, S. Christodoulakis, "Interoperability of XML Schema Applications with OWL Domain Knowledge and Semantic Web Tools", In the proceedings of the 6th International Conference on Ontologies, DataBases, and Applications of Semantics (ODBASE 2007), Vilamoura, Algarve, Portugal, November 27-29, 2007


**Books and edited book chapters**


- A. Karanastasi, A. Zwttos, **S. Christodoulakis**, "The OntoNL Framework for Natural Language Interface Generation and a Domain-Specific Application", LNCS Series, Springer


In the proceedings of the 6th International Conference on Web-based Learning (ICWL 2007), LNCS Series, Springer


C – Awards & Distinctions

D – Funded Projects

Current projects:

- IQTOOL: Innovative eLearning Tool for Quality Training Material in VET
- NEMESIS: Networked Multimedia & Mobile Broadcasting
- LOGOS Knowledge on Demand for Ubiquitous Learning (EU, STREP, 6th Framework Program)
- CHIRON (EU, Leonardo, 6th Framework program).
- National Administration Center’s Learning Digital Library (subcontract)
- EPEAEK in Informatics for Undergraduate Studies (for the Department of HMMY)
- EPEAEK in Informatics for Graduate Studies (for the Department of HMMY)

E – Professional service

- Conference Steering Board:
  - ECDL, DBTE
- Conference Technical Program Committee service:
  - VLDB, ACM CIKM, several others
- Conference Organization (specify role):
  - Program Chair: Workshop on personalized and educational applications on digital libraries
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 Governing Committee, S
  - Member of the 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 Kotopoulos (MSc)
    - Yannis Kotopoulos (MSc)
    - Xenia Arapi (MSc)
    - Michalis Foukarakis (MSc)
    - Andreas Pitsiladis (MSc)
    - Manolis Mylonakis (MSc)
    - Marios Christoulakis (MSc)
  - PhD. degree awarded
    - Chrisa Tsinaraki
- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Papachristoudis
    - Panteli
    - Mpikakis
    - Makris
  - Diploma theses completed (supervisor)
    - Mylonakis
    - Theodorakis
    - Stylianakis
    - Ntousias
    - Zotos
    - Sytzanaki
    - Christoulakis
Electronics and Computer Architecture Division

Faculty members:

- Apostolos Dollas, Professor
- Costantinos Balas, Associate Professor
- Mathias Bucher, Assistant Professor
- Kostas Kalaitzakis, Professor
- Ioannis Papaefstathiou, Assistant Professor
- Dionisis Pnevmatikatos, Associate Professor
- Georgios Stavrakakis, Professor
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report
For the period: September 1, 2007 to August 31, 2008

Name: Apostolos Dollas
Rank: Professor
Years in rank: 7
Full-time or part-time: Full Time
Division: Electronics and Computer Architecture (HRY)
Lab affiliation: Microprocessor and Hardware Laboratory (Director)

A – Teaching

• Undergraduate courses taught
  o HRY 501 - VLSI and ASIC Design
  o HRY 411 - Computer Architecture

• Graduate courses taught
  o HRY 631 – Introduction to VLSI and ASIC Design

• Labs taught
  o Supervision of labs of HRY 501 (VLSI) and their transition to new tools and exercises.
  o Supervision of the labs of HRY 411.

• Curriculum & course development
  o Lecture notes / slides developed: Continued on the development of the new HRY 401 (Embedded Microprocessor Systems) and HRY 412 class notes and slides, under the EPEAEK program.
  o Entirely new laboratory exercises for HRY 501 (VLSI), with new material and under a new CAD environment (first time offered in the academic year 2007-2008).
B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted
  - Published

- Publications in refereed conferences
  - Accepted
    - S. Ninos, A. Dollas, International Symposium on Field Programmable Logic (FPL) 2008 (accepted as a regular paper).
    - M. Zampetakis, V. Samoladas, A. Dollas, International Symposium on Field Programmable Logic (FPL), 2008 (accepted as a 4-page poster paper and published in the proceedings).
  - Published (all papers fully refereed)
    - R. Kannavara, N. G. Bourbakis, A. Dollas, “SCAN Cryptoprocessor”, Reconfigurable Systems Summer Institute RSSI -08 (organized by the National Center for Supercomputing Applications, the NSF Center for High-Performance Reconfigurable Computing, and OpenFPGA – electronic proceedings, 9 IEEE pages)

- Books and edited book chapters

- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - “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.
  - 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 16th IEEE Symposium on Field Programmable Custom Computing Machines (FCCM), Monterey, USA, April, 2008.
  - Program Committee Member 19th IEEE International Workshop on Rapid System Prototyping (RSP), Monterey, USA, June 2008.
  - Program Committee Member, Field Programmable Logic (FPL), Heidelberg, Germany, Sept. 8-10, 2008.
  - Program Committee Member, IEEE International Conference on Field Programmable Technology (FPT), Taipei, Taiwan, Dec. 8-10, 2008.
  - Program Committee Member, IEEE Symposium on Application-Specific Processors (SASP 2008), Salzburg, Austria, Oct. 4-5, 2008.
  - Program Committee Member, Second Panhellenic Conference of Electrical and Computer Engineering Students, April 18-19, Athens, Greece.
  - Invited as Program Committee Member of several 2009 conferences, including FCCM, FPL, FPT, SASP (and declined several more due to load).

- PhD Committee member of Christoforos Kachris, University of Delft, Netherlands (December, 2007).
- Member of the recommendation committee and the election committee for a full professor election at the University of Thessaly.
- Member of the recommendation committee and the election committee for an Associate Professor and an Assistant Professor election at the University of Peloponese, participation in the faculty election.
- Member of the election committee and participation in faculty election for Full Professor at the University of Thessaly.
- Member of the election committee and participation in faculty election for Associate Professor at the University of Crete.
- Member of several election committees and recommendation committees and faculty elections at the Dept. of ECE of the Technical University of Crete.
- Participation in faculty election for Assistant Professor at the University of Thessaly.

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 the Journal of Real-Time Image Processing, IEEE Transactions on VLSI Systems, IEEE Potentials

F – Service to the Department and the School

• Departmental responsibilities
  o Associate Chairman
  o Director, Microprocessor and Hardware Laboratory
  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, Undergraduate Studies Committee
  o Member of faculty recommendation committees in two faculty elections, member of the election committee and participation in the election process of several faculty elections.
  o Faculty advisor to the 9th Semester students

• Responsibility for Department-wide projects (e.g., EPEAEK, practical training, …)
  o Participation in the EPEAEK II Program with English translation of substantial portions of the ECE Undergraduate and Graduate Studies Guides, and the ECE URL content.
  o Coordinator on behalf of the ECE Dept. of the TUC-wide GRID computer proposal, under appointment by the Departmental General Assembly, developing the specifications and 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).

• School-level responsibilities
  o TUC-wide coordinator of the TUC Grid computer project, under appointment by the TUC rector (appointed chairman of the ad hoc TUC Grid acceptance committee)

G – Advising

• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised (advisor, completed)
    ▪ Chrysos, Grigorios (MS)
  o Ph.D. and M.Sc. students supervised (advisor, in progress)
    ▪ Sotiriades, Euripides (PhD)
    ▪ Chrysos, Grigorios (PhD)
- Efstatiou, Dionissios (MS)
- Ninos, Spyridon (MS)

- PhD. And M.Sc. degrees awarded (committee member)
  - Fytrakia, Sotiria (MS)
  - Nikitakis, Antonios (MS)

- PhD and M.Sc. Degrees (committee member)
  - Mavroidis, Ioannis (PhD)
  - Mavroidis, Iakovos (PhD)
  - Kornaros, George (PhD)
  - Meidanis, Dimitrios (PhD)
  - Giakoumis Dimitrios (MS)

- Undergraduate students supervised
  - Diploma theses in progress
    - Kouinis, Konstantinos
    - Sartzetakis, Ippokratis
    - Alachiotis, Nikolaos

  - Diploma theses completed (supervisor)
    - Zampetakis, Michael

  - Diploma theses completed (committee member)
    - Afratis, Panagiotis
    - Athanasiou, George
    - Klatsias, Konstantinos
    - Kontomanou, Aikaterini
    - Mplemenos, George
    - Papadopoulos, Konstantinos
    - Pelekanos, Nektarios
    - Plikaditi, Agoritsa
    - Sotiropoulos, Ioannis
    - Theocharoulis, Konstantinos
    - Vavouras, Michael
Annual Activity Report Template

For the period: 1/9/2007 to 31/8/2008

Name: Costas Balas
Rank: Associate Professor
Years in rank: 6.5 yrs
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture Division
Lab affiliation: Electronics Laboratory

A – Teaching

• Undergraduate courses taught
  o Electronics I
  o Optoelectronics

• Graduate courses taught
  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
  Electronics I: new notes, and slides (200)

  o Authored textbooks
B – Publications

• Publications in refereed journals
  o Submitted
  o Published

• Publications in refereed conferences
  o Published
    ▪ Tsapras A., Terzakis E., Makris A., Papadakis E., Papoutsoglou G., Papagiannakis E., Tsatsanis C., Stathopoulos E., Balas C., “Hyperspectral Imaging for Skin Cancer Diagnosis in Mice”, presented at the 6th European Symposium on Biomedical Engineering, Chania, Crete, 19-21 June 2008

• Books and edited book chapters

C – Awards & Distinctions

• Invited Plenary Lectures:
  o C. Balas, G. Papoutsoglou, P. Soutter, “Interpretation and modeling of the AW effect enables the in vivo assessment functional and structural characteristics of the abnormal cervical epithelium in DySIS coploscopy.”, presented at Annual
Scientific Meeting of the British Society For Colposcopy & Cervical Pathology, 10-11 April, ICC Birmingham, 2008

- C. Balas, “In Vivo Optical Molecular Imaging for Optical Biopsy: Technology Development and Clinical Implementation”, presented at the 6th European Symposium on Biomedical Engineering, Chania, Crete, 19-21 June 2008

Other

- Conference award for the oral presentation given by Prof. Balas at the Annual Scientific Meeting of the British Society For Colposcopy & Cervical Pathology, 10-11 April, ICC Birmingham, 2008

D – Funded Projects

- Current projects:
  - ENTER “Development of a novel optical imaging system for quantitative measurement of skin histological parameters” GSRT, 04EP72, 10/2006-10/2008, PI, total budget € 78.000,00, PI’s budget € 78.000,00

- Project proposals submitted:

E – Professional service

- Associate Editor duties
- Society Technical Committee duties
- Conference Technical Program Committee service:
- Conference Organization (specify role)
  International organizing committee of the 6th European Symposium on Biomedical Engineering, Chania Crete Greece, 2008
  Member of the international advisory committee at the IEEE International Workshop on Imaging Systems and Techniques (IST 2008), September 10-11, Chania, Island of Crete, Greece, 2008

- Reviewing activities:
IEEE-Transactions on Biomedical Engineering, Journal of Applied Optics-Optical Society of America, Journal of Biomedical Optics

- Participation in National Committees (e.g., ΕΔΕΤ)

- Other

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

- Departmental responsibilities
  - Chair, Vice-Chair, Lab Director, NOC director, …
  - Responsibility for Department-wide projects (e.g., ΕΠΕΔΕΚ, practical training, …)

- School-level responsibilities
  - Member of board of regents (Σύγκλητος)
  - ΕΛΚΕ
  - Institute
  - Other

**G – Advising**

**Ph.D. Students Supervised**
- Tsapras Thanasis
- Papoutsoglou George

**M Sc. Students Supervised**
- Georgiou Nikolaos

**M Sc Degrees Awarded**
- Papoutsoglou George

**Diploma Theses Supervised**
- Sgouros Antonis
- Epitropou Georgios
- Anastasopoulou Antigoni
- Kavvadas Vasilis
- Galaras Kostas
• Kontouli Aggeliki
• Kassis Nikos
• Lagga Peggy
• Makridou Georgia

**Diploma Thesis Completed** (supervisor)
• Arvaniti Efi

**Diploma Thesis Completed** (committee member)
• Dianantakos Dimitrios
• Lathourakis Kiriakos
• Dougali Evaggelia
• Giannatos Georgios
• Mpanti Maria-Aliki
• Saleh Basel
• Stefanakis Dionisios
• Tsagkatakis Grigoris
• Antonopoulos Aggelos
• Rozakis Georgios
Annual Activity Report

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

Name: Matthias Bucher
Rank: Assistant Professor (tenured)
Years in rank: 4+1/2
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Electronics Laboratory

A – Teaching

• Undergraduate courses taught
  o ECE 506 – Design of CMOS Analog Integrated Circuits (Fall 2007)
  o ECE 311 – Electronics II (Spring 2008)

• Graduate courses taught
  o ECE 604 – Special Themes of Analog IC Design (Fall 2007)

• Labs taught
  o ECE 506 – Design of CMOS Analog Integrated Circuits (Fall 2007)
  o ECE 311 – Electronics II (Spring 2008)

• Curriculum & course development
  o Lecture notes/slides developed, ECE 311 – Electronics II, ECE 506 – Design of CMOS Analog Integrated Circuits

B – Publications

• Publications in refereed journals
  o Submitted:
- P. Martin, M. Cavelier, R. Fascio, G. Ghibaudo, **M. Bucher**, “EKV3 Compact Modeling of MOS Transistors from a 0.18 \( \mu \)m CMOS Technology for Mixed Analog-Digital Circuit Design at Low Temperature”, submitted to *Cryogenics*.

- **Submitted-Accepted:**

- **Accepted:**

- **Published:**

- **Publications in refereed conferences**

  - **Submitted-Accepted-Published:**
    - P. Martin, M. Cavelier, R. Fascio, G. Ghibaudo, **M. Bucher**, “EKV3 Compact Modeling of MOS Transistors from a 0.18 \( \mu \)m CMOS Technology for Mixed Analog-Digital Circuit Design at Low Temperature”, *Proc. 8th European Workshop on Low Temperature Electronics (WOLTE 8)*, Jena-Gabelbach, Germany, June 22-25, 2008.

  - **Published:**
• International Workshop Presentations:


C – Awards & Distinctions

D – Funded Projects

• Current projects:
  o Investigation and Modelling of Noise in MOS Transistors, Basic Research Project, Research Committee, TUC, 2007, Budget: 5K €.

• Development of Electronics Laboratory infrastructure:
  o 1 GHz Mixed Signal Oscilloscope, Agilent MSO 6104 (4 analog + 16 digital channels), 16K € (AKMON).
  o Precision LCR Meter, Agilent E4980A, 15K € (AKMON).
  o Tempronic TPO3000A System, Controller for hot/cold chuck (−65 °C – 200 °C), Tempronic Air dryer, 12K € (AKMON).
  o Software Agilent IC-CAP, ADS, 3.7K € (AKMON).
o Agilent E3631A 3-channel Power supply, 1.3K € (Electronics Laboratory).

o Development of new Electronics Laboratory website.

E – Professional service

• Conference Technical Programme Committee service

• Conference Organization

• Reviewing activities
  ▪ IEEE Trans. on Electron Devices
  ▪ IEEE Trans. on Computer Aided Design of Integrated Circuits and Systems
  ▪ IEEE Electron Device Letters
  ▪ Solid-State Electronics
  ▪ IEEE DDECS 2008
  ▪ Project Reviewer for Swiss National Science Foundation.

F – Service to the Department and the School

• Departmental responsibilities
  o Organized & accompanied 6th semester’s student excursion (June 1 – 7, 2008, 40 participants).
  o Advisor for 6th semester students.
  o Deputy Member of the Committees for Undergraduate and Graduate Studies.
  o Member of the Examinatory Committee for admission of undergraduate students.
G – Advising

- Graduate students supervised
  - Ph.D. degrees awarded (member of the advisory & examinatory committee):
  - Ph.D. degrees awarded (member of the examinatory committee):
  - Ph.D. students supervised (supervisor):
    - Angelos Antonopoulos, Design of multi-mode RF CMOS transceivers, Enrollment: June 2008. Phone 28210 37223, 28210 37546. aanton “at” elci.tuc.gr
  - Ph.D. students co-supervised (member of the advisory committee):
    - Harris Koliakoudakis, Development of SiC MESFET technology, Dept. of Physics, University of Crete/FORTH, Heraklion, Greece. Enrollment: Jan. 2006.
  - M.Sc. degrees awarded (supervisor):
  - M.Sc. students supervised (supervisor):

- Undergraduate students supervised
  - Diploma theses completed (supervisor):
    - Dionysios Stefanakis, Design of a CMOS image sensor for biomedical application, July 2008.
    - Kyriakos Lathourakis, Study of matching in 0.35um CMOS, Dec. 2007.
- Dimitris Diamantakos, EKV3 MOSFET model validation and parameter extraction from 1um to 90nm CMOS, Sept. 2007.
  - Diploma theses completed (committee member):
    - George Dimou, Method of simulation of photovoltaic elements, June 2008.
  - Diploma students (supervisor):
    - Alexandros Kyriakos, Development of a Java and Matlab based CAD tool for the EKV3 MOSFET model.
    - Maria-Anna Halkiadaki, Small- and large signal RF modelling in 90nm CMOS.
    - Marios Katsis, Characterization and modeling of capacitance-voltage (CV) behaviour of MOSFETs.
    - George Smaragdos, Design of integrated filters based on current-mode OPAMPs.
    - Apostolos Tsivitis, Study of 1/f noise in MOS transistors.
    - Athanasios Dimakos, Design of ultra-low voltage CMOS integrated filters.
    - Prodromos Prodromou, Development of a MOSFET benchmark tool in Cadence.
    - Michael Karefylakis, Compact modelling of high-voltage MOSFETs.
Annual Activity Report

For the period: September, 1, 2007 to August, 31, 2008

Name: Kostas Kalaitzakis
Rank: Professor
Years in rank: 6
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

- Patents

C – Awards & Distinctions

- Paper awards
    This paper has the 13th rank in the “Most frequently downloaded TIE papers from Xplore in 2007” of IEEE Transactions on Industrial Electronics and 14th rank in the “Most cited TIE papers 2006”

- Technical Achievement awards
  - 2nd award in international competition organized by the Hellenic Institute of Electric Driven Cars in 2008 for the design of the solar car Hephaestus in the framework of the program INTERREG IIIA «SUN LIFE – Greece - Italy» in 2007. This project has also attracted the interest of the national wide and local news press in Greece (Nea, Kathinerini, Ethnos, etc.), technical press (Technika Chronika, National Technical Chamber bulletin, Energy Point, etc.), as well as major TV channels (ET1, MEFA, ANT1, ALPHA, etc)
o **Honorable Mentions** (2nd Award) from the Modialogo Engineering Award Institution for a project entitled “Biodiesel and Power Biomass Valorisation of Palm oil in rural areas: Case study of Mango’s village, Central province Cameroon”. This project inspired the idea implemented in the project entitled “Development of an Autonomous Solar Unit for Biodiesel Production”, funded by the Regional Innovation Pole. This project has also attracted the interest of the national wide and local press in Greece (Kathinerini, Eleftherotypia, etc.) as well as major TV channels (ET1, MEFA, ANT1).

- Professional service awards
- Elevation to senior membership grades in Professional Societies (e.g. IEEE, ACM, …)
- Fellowships, Visiting Professorships
- Invited Plenary Lectures
- Other

## D – Funded Projects

- Current projects:
  - Principal Investigator in a Project Entitled “Development of an Autonomous Solar Unit for Biodiesel Production”, funded by the Regional Innovation Pole of Crete in the Framework of the Program “Unisteplus 2007”.
  - Co-advisor of a team in the Technical University of Crete for the design of the solar car Hephaestus in the framework of the program INTERREG IIIA «SUN LIFE – Greece - Italy» in 2007.

- 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. EΔΕΤ)
• Other

F – Service to the Department and the School

• Departmental responsibilities
  o Chair, Vice-Chair, Lab Director, NOC director, …
  o Responsibility for Department-wide projects (e.g. ΕΠΕΑΕΚ, practical training, …)

• School-level responsibilities
  o Member of board of regents (Σύγκλητος)
  o ΕΛΚΕ
  o Institute
  o Other

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.
    • J. Kantaris (M.Sc.), year of initial enrollment in M.Sc. program: 2005.
    • 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

• Undergraduate students supervised
  o Diploma theses in progress (supervisor)
    • A. Chatziioannou, “Design Optimization of Hybrid Photovoltaic/Wind-Generator Systems Used to Power Supply Desalination Plants”.

  o Diploma theses completed (supervisor)
• P. Lamprou, “Development of an Autonomous Data Acquisition System Based on Microprocessor Interconnected to the Internet”
• V. Nikoalidis, “Optimal Design for Autonomous Hybrid Photovoltaic Arrays and Wind Energy Generation”
• G. Dimou, “An Algorithm for the Simulation of Photovoltaic Arrays Parameters”
• S. Zampelis, “Design and Financial Evaluation of a Hybrid Photovoltaic and WECs System Powering Desalination Plants”

○ Diploma theses in progress (committee member):
  • 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”
  • S. Nikolaidis, “Heart Diagnosis Support Device using ECG and Sphygmomanometer Signals”
  • E. Founta, “PWM generator using FPGA”
  • 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”

○ Diploma theses completed (committee member):
  • More than 10
Annual Activity Report

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

Name: Ioannis Papaefstathiou
Rank: Assistant Professor
Years in rank: 1.3
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 2008)
  - HPY 312 – Computer Organization (Spring 2008)

- Graduate courses taught
  - HRY 625 – Communication and Network Processors’ Architecture (Spring 2008)

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

- Curriculum & course development
  - New courses / labs developed
  - Lecture notes / slides developed
    - Communication and Network Processors’ Architecture
    - Computer Organization
    - Computer Architecture
  - Authored textbooks
B – Publications

• Publications in refereed journals
  o Submitted
    ▪ I. Mavroidis, I. Mavroidis, I. Papaefstathiou, “Accelerating Emulation and Providing Full Chip Observability and Controllability at Run-Time” submitted to IEEE Design & Test
    ▪ K. Papadopoulos, I. Papaefstathiou, “Titan-R: A Reconfigurable hardware implementation of a high-speed compressor/decompressor” submitted to ACM Transactions on Reconfigurable Computing
  o Accepted
  o Published

• Publications in refereed conferences
  o Submitted: those published/appeared (see below), plus
    ▪ K. Theocharoulis, I. Papaefstathiou, “High-End Reconfigurable Systems for fast Password Cracking”, submitted to IEEE Design Automation and Test in Europe (DATE 2009), April 20-24, Nice, France
  o Accepted: same as published (see below) plus
    ▪ 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
    ▪ Dimitris Theodoropoulos, Ioannis Papaefstathiou, Dionisios Pnevmatikatos, “CCproc: An Efficient Cryptographic
Coprocessor”, 16th IFIP/IEEE International Conference on Very Large Scale Integration (VLSI-SOC 2008), October 13-15, 2008 Rhodes Island, Greece

- Published

I. Books and edited book chapters

J. Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - AWISSENET, FP7-STREP, Award Period January 2008 – March 2010, Funding Level 2.2M € (300K € for TUC)

- Project proposals submitted:
  - Organizer, of “OSMOSIS”, FP7-CAPACITIES proposal, grade 24/30 will be funded from 1/10/08
  - Organizer of “SMART”, FP7-ARTEMIS proposal, results awaited.
  - Organizer of “POCAHONTAS”, FP7-CAPACITIES proposal

**E – Professional service**

- Associate Editor duties

- Society Technical Committee duties

- Conference Technical Program Committee service
  - IEEE DATE 2008 and 2009
  - IEEE FPL 2008
  - IEEE SAMOS 2008
  - Several other smaller workshops

- Conference Organization (specify role)

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

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

- Departmental responsibilities

- School-level responsibilities
  - Member of board of regents
G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Dimitris Meintanis (Ph.D), Year of initial enrollment in Ph.D. program: 2005.
    - Iakovos Mavroidis (Ph.D), Year of initial enrollment in Ph.D. program: 2005.
    - 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
    - Antonis Nikitakis (M.Sc.), Year of initial enrollment in program: 2004 (completed)

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - N. Kassis.
    - A. Katsoulas
    - I. Kartsonakakis
    - E. Ntortou
    - K. Tsakonas
  
  - Diploma theses completed (supervisor)
    - K. Klatsias
    - N. Spanos
    - K. Papadopoulos
    - G. Mplemenos
    - A. Plikaditi
    - A. Kontomanou
    - M. Vavouras
    - K. Theoharoulis
    - N. Pelekanos
    - I. Sotiropoulos
Annual Activity Report

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

Name: Dionisis Pnevmatikatos
Rank: Associate Professor
Years in rank: 6
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)
  - HPY 211 – Advanced Logic Design (Spring 2008)

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

- Labs taught
  - HRY 201 – Digital Computers (Fall 2008)
  - HPY 211 – Advanced Logic Design (Spring 2008)

- 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
  o Submitted
  o Accepted
  o Published

• Publications in refereed conferences
  o Submitted: those published/appeared (see below), plus
    ▪ Sotiria Fytrakhl, Dionisios Pnevmatikatos, “ReSim, a Trace-Driven, Reconfigurable ILP Processor Simulator”, submitted to *IEEE Design Automation and Test in Europe (DATE 2009)*, April 20-24, Nice, France.
  o Accepted:
  o Published
    ▪ A Rate-based Prefiltering Approach to BLAST Acceleration, International Symposium on Field Programmable Logic (FPL), August 2008

• Books and edited book chapters
  o G.Kornaros, D.Pnevmatikatos, and I.Papaefstathiou, Monitoring Services for Networks-on-Chip", Book Chapter 8, in "Networks-
C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - VPLANET, Greek Secretariat for Research and Technology, **Project PI for TUC**: D. Pnevmatikatos. Award Period: October 2006 – March 2008. TUC Funding 92K €.

- Project proposals submitted:

E – Professional service

- Associate Editor duties

- Society Technical Committee duties

- Conference Technical Program Committee service

  **Program Chair:**
  Design And Test Europe (DATE) 2009, Architecture and Microarchitecture Track.

  **Program Co-Chair:**
  Design And Test Europe (DATE) 2008, Architecture and Microarchitecture Track.

  **General Co-Chair:**

  **Technical Committee Member:**
  RSP 2007, 2008,
  VLSI-Soc 2008,
  FPL 2007, 2008,
  ICCD 2007, 2008,

  **Workshop TPC:**
  HIPEAC-RC 2007, 2008,
HIPEAC-INA-OCMC 2007, 2008

• Conference Organization (specify role)

• Reviewing activities
  o Journal Reviewer:
    ▪ ACM Transactions on Reconfigurable Technology and Systems,
    ▪ ACM Transactions on Embedded Systems,
    ▪ COMNET,
    ▪ Journal of HiPEAC,
    ▪ ACM Computer Architecture Letters
  o Conference Reviewer:
    ▪ HPCA 2008

• External Ph.D. Committee member of Ioannis Sourdis, Delft University of Technology, Netherlands (December, 2007).

F – Service to the Department and the School

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

• School-level responsibilities
  o Lecture Notes Committee
  o Member of board of regents

G – Advising

• Active graduate students supervised
  o Ph.D.
    ▪ Kornaros George
    ▪ Ioannis Mavroidis
    ▪ Iakovos Mavroidis (co-supervise)
    ▪ Meidanis Dimitris (co-supervise)
  o M.Sc. students supervised
    ▪ Kiriakoulakos Kostas
    ▪ Kiodis Sifis
  o M.Sc. degrees awarded
    ▪ Fytraki Sotiria
• Undergraduate students supervised
  o Diploma theses completed (supervisor)
    ▪ P. Afratis
  o Diploma theses completed (co-supervisor)
  o Diploma theses in progress (supervisor)
    ▪ G. Tsiligianis
    ▪ K. Galanakis
    ▪ G. Andronikidis
    ▪ K. Pappas
    ▪ P. Spyropoulos
    ▪ A. Katsantonh
  o Diploma theses in progress (committee member)
    ▪ N. Kassis
    ▪ M. Chalkiadaki
    ▪ K. Kassis
  o Diploma theses completed (committee member)
    ▪ Platsis Mixahl
    ▪ Anifantis Antwnios
    ▪ K. Klatsias
    ▪ N. Spanos
    ▪ K. Papadopoulos
    ▪ G. Mplemenos
    ▪ A. Plikaditi
    ▪ A. Kontomanou
    ▪ M. Vavouras
    ▪ K. Theoharoulis
    ▪ N. Pelekanos
    ▪ I. Sotiropoulos
Annual Activity Report

For the period: 1-9-2007 to 31-8-2008

Name: George Stavrakakis  
Rank: Professor  
Years in rank: 13  
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  
  o Basic Circuit Theory (HRY 202)  
  o Renewable Energy Sources (HRY 416)

- Graduate courses taught  
  o 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)

  o Authored textbooks: None
B – Publications

• Publications in refereed journals
  o Submitted : 3
  o Accepted : 2
  o Published : 1 (see below)

  K. Dalamagidis, D. Kolokotsa, K. Kalaitzakis, G.S. Stavrakakis.
  Reinforcement learning for energy conservation and comfort in buildings.

• Publications in refereed conferences
  o Submitted : 3
  o Accepted : 3
  o Published : 3 (see below)

  Kafetzis G., Patelis P., Kolokotsa D., Stavrakakis G.S. “Java Software
  Platform for Energy and Environmental Buildings Management”, 6th
  International Conference on Electrical Engineering ICEENG 2008,
  May 27-29, 2008, Cairo, Egypt.

  D. Kolokotsa, M. Papaglastra, E. Mouriki, M. Santamouris, G.
  Mihalakakou, D. Matthopoulos, I.Deliogiannakis, V. Tzezos, E. Doulka,
  A.Papadopoulos, E. Giama, A. Aristotelis, G. Stavrakakis, T.Nicolaou,
  S. Kephalopoulos, A. Katsoyiannis, “An innovative training package for indoor
  environmental quality”, Presented at the Restoration and Protection of

  D. Kolokotsa, G. Stavrakakis, T. Nikolaou, “Comparison of asset and
  operational rating for office buildings' energy performance - A case study in
  Athens Greece”. Presented at the Restoration and Protection of the

• Books and edited book chapters : none

• Patents: one in the national level (see below)
C – Awards & Distinctions

D – Funded Projects

Current projects:


- Project proposals submitted: 3

E – Professional service

- Associate Editor duties: none
- Society Technical Committee duties: one (International Committee of Electrical Machines- ICEM)
- Conference Technical Program Committee service: XVIII International Conference on Electrical Machines ICEM 2008, 6-9 September 2008, Vilamoura, Portugal
- Conference Organization (specify role): none
  Journal of Intelligent and Robotic Systems.
  IEEE Transactions on Energy Conversion.
- Participation in National Committees (e.g., EΔΕΤ): one
  Permanent Committee of the Prefecture of Crete for the Energy Problem of Crete

F – Service to the Department and the School

- Departmental responsibilities: none
  - Chair, Vice-Chair, Lab Director, NOC director, …
  - Responsibility for Department-wide projects (e.g., ΕΠΕΑΕΚ, practical training, …)
• School-level responsibilities
  o Member of board of regents (Σύγκλητος)
  o ΕΑΚΕ
  o Institute
  o Other : member of the Technical Council of TUC

G – Advising

• Active graduate students supervised
  o Ph.D students supervised
    1. Tripolitakis Evagelos
    2. Nikolaou Triantafylia
    3. Sergaki Eleftheria

  o M.Sc Students supervised
    1. Afentakis Nikolaos
    2. Vassalos Gerasimos
    3. Dougali Evaggelia
    4. Sytzanaki Athina
    5. Tabitsikas Charalabos

  o M.Sc. degrees awarded : 4
    1. Kafetzis Georgios
    2. Patelis Petros
    3. Lazos Christos
    4. Theodoromanolakis Manolis

• Undergraduate students supervised
  o Diploma theses in progress (supervisor): 12
  o Diploma theses completed (supervisor) : 8
  o Diploma theses in progress (committee member): 9
  o Diploma theses completed (committee member): 7
Systems Division

Faculty members:

- Petros Stavroulakis, Professor
- Manolis Christodoulou, Professor
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

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

Name: Peter Stavroulakis
Rank: Professor
Years in rank: 18
Full-time or part-time: Full-time
Division: Systems
Lab affiliation: Automation

A – Teaching

Theory and applications of automatic control (undergraduate)
Optimal control
Neural networks

B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted
  - Published
    1) Technological and Legal aspects of Communications and Information Security, published in the International Journal of Technology Transfer and commercialization

- Publications in refereed conferences
  - Submitted
  - Accepted
  - Presented
    1) Technological and Legal aspects of Communications and Information Security, presented at the Second International Conference on Legal, and Privacy Issues in IT (LSPI), Beijing China Dec. 4-6 2007
2) Transmitter Independent Radar Networks, presented at the IEEE conference on Signal Processing and Communications Networks, Madras India, Jan. 4-6/2008 Published
3) “On Line Tracking of Maneuvering Targets via Angle of Arrival and Doppler Measurements, , presented at the IEEE conference on Signal Processing and Communications Networks, Madras India, Jan. 4-6/2008 Published

- Book chapters in Books
- Books published

TErrestrial Trunking Radio (TETRA), Springer Publishing Company 2007

- Book proposals accepted:

A Book Proposal for a HANDBOOK ON COMMUNICATION AND INFORMATION SECURITY has been accepted and a 1200 page book will be published in 2009 by SPRINGER PUBLISHING COMPANY.

- International Patent on Secure Communications using Chaotic signals

C – Awards & Distinctions

D – Funded Projects

E – Professional service

- Associate Editor duties
  - Guest Editor for a special issue for the CHINA COMMUNICATIONS JOURNBLAL on COMMUNICATIONS AND INFORMATION SECURITY, June 2008 in which I have three papers of my own.
- 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/2008 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)

• Participation in National Committees (e.g., EΔET)

• Other

Invited speeches/seminars on the general subject of Information Security
1) Wseas Conference (Plenary Speaker) July 2008

2) IEEE conference on Signal Processing and Communications Networks, Madras, India, Jan. 4-6/2008

F – Service to the Department and the School

G – Advising

I have one student working on his diploma thesis who will finish soon
Annual Activity Report

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

Name: Manolis A. Christodoulou
Rank: Professor
Years in rank: 16
Full-time or part-time: Full-time
Division: Systems
Lab affiliation: Automation

A – Teaching

- Undergraduate courses taught
  - Neural Networks
  - Linear Systems

- Graduate courses taught
  - Adaptive Control
  - 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
  - Submitted
  - Accepted
  - Published
  

- Publications in refereed conferences
  - Submitted: those published/appeared (see below), plus
  - Accepted: those published (see below), plus
  
  
  
  
  
  
  ▪ M.A. Christodoulou and C. Kontogeorgou “Automatic Collision Avoidance in Commercial Aircraft 3-D Flights, using Neural Networks and Non-linear Programming”, *CHAOS 2008, Chaotic
Modeling and Simulation International Conference, Maich Center, paper SCS8-2, June 3-6 2008, Chania, Crete, Greece.


- Books and edited book chapters
- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
- Project proposals submitted:

E – Professional service

- Associate Editor duties
- Society Technical Committee duties
  - Mediterranean Control Association, Member of the Board of Governors
- Conference Technical Program Committee service
  - Associate Editor, 16th IEEE Mediterranean Conference on Control and Automation, Corsica, France, June 25-27, 2008.


International Program Committee, Member Workshop on Networked Distributed Systems for Intelligent Sensing and Control, Kalamata, Greece June 30, 2007.


- **Conference Organization (specify role)**

- **Reviewing activities**
  - Reviewer for various *IEEE Transactions and IEEE Conferences*.

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

**G – Advising**

- **Active graduate students supervised**
  - Ph.D. and M.Sc. students supervised
    - Iosif Kodaxakis
    - Panagiotis Voulgarellis
    - Vouros Efstratiou
    - Giotis Thomas
    - PhD. And M.Sc. degrees awarded

- Undergraduate students supervised
  - Several diploma theses are in process and/or completed.