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 about 130, and the number of faculty to 19 (with 3 more to join us shortly).

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, researchers at University, Government, and Industry Research Labs (e.g., Rice-U.S., NICTA-Australia, Telcordia-U.S.), and successful professional engineers across Greece and Europe.

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 here and abroad.

While the Department's gradient is positive in all these metrics, there is still a lot of room for improvement. Towards this end, an Annual Activity Report (AAR) process was instituted earlier this year. You are holding the Department's first AAR, covering the period from Sep. 1, 2004 to Aug. 31, 2005. It is our hope that the AAR process will contribute towards improving the quality of our Department, and, at the same time, give a credible snapshot of the state of the Department as of this writing. Your feedback is most welcome.

Nikos Sidiropoulos
nikos@telecom.tuc.gr
Telecommunications Division

Faculty members:

- Vassilios Digalakis, Professor
- Michael Zervakis, Professor
- Polychronis Koutsakis, Post-Doctoral Researcher – Visiting Lecturer
- Athanasios Liavas, Associate Professor
- Michael Paterakis, Professor
- Alexandros Potamianos, Associate Professor
- Nikolaos Sidiropoulos, Professor
Annual Activity Report

For the period: Sept. 1, 2004 to Aug. 31, 2005

Name: Vassilis Digalakis
Rank: Full
Years in rank: 5
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information & Networking

A – Teaching

- Undergraduate courses taught
  - Introduction to speech processing

- Graduate courses taught
  - Advanced topics in speech processing

B – Publications

- Publications in refereed journals
  - Submitted
    - N. Chatzichrisafis, V. Digalakis, V. Diakoloukas and C. Harizakis, “Gaussian Mixture Clustering and Language Adaptation for the Development of a New Language Speech Recognition System”.


  - Accepted
• Publications in refereed conferences
  o Submitted
  o Published

C – Awards & Distinctions

  o The PENED proposal “Development of multimedia platform for portable devices with embedded voice recognition and synthesis capabilities” was ranked 8th among 207 proposals submitted in the Informatics category.

D – Funded Projects

  • Current projects:
    o “Development of multimedia platform for portable devices with embedded voice recognition and synthesis capabilities”, PENED, PI, PI’s Budget € 180.000.
    o “Voice modeling, synthesis and recognition using computational aerodynamic analysis of the human vocal tract”, PENED Co-PI, PI’s Budget € 180.000.

  • Project proposals submitted:
    o MULTIPLE, GSRT Information Society, PI, PI’s Budget € 195.000.
    o “Development of cardiac diagnosis system for children using analysis of acoustic cardiac emission signals”, PENED, Co-PI, PI’s Budget € 112.500.

E – Professional service

  • Reviewer in several conferences and journals.
F – Service to the Department and the School

- Departmental responsibilities
  - Department Chair
  - Director, Information and Networking Lab
- School-level responsibilities
  - Member of the University Senate
  - Deputy Director, TSI

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
    - Nikos Tsourakis, MSc, 2001
    - Dimitris Pratsolis, MSc, 2001
  - PhD. And M.Sc. degrees awarded
    - Petros Gavalakis, MSc, 2004
- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - T. Gjermani
    - G. Tsontzos
    - C. Mpoumpouka
    - Papadopoulos
    - Athanasoglou
    - Z. Malafouris
  - Diploma theses completed (supervisor)
Annual Activity Report

For the period: Sept 1, 2004 to Aug. 31, 2005

Name: Michalis Zervakis
Rank: Professor
Years in rank: Full-time
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
  - TEL 304 - Digital Signal Processing
  - TEL 313 - Digital Image Processing

- Graduate courses taught
  - Pattern Recognition
  - Special Issues in Image Processing

- Labs taught
  - TEL 304 - Digital Signal Processing
  - TEL 313 - Digital Image Processing

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

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

- Publications in refereed conferences
  - V. Sakkalis, M.E.Zervakis, S. Erimaki, S. Micheloyannis, “Evaluation of electroencephalographic activity involved in mathematical thinking using wavelet analysis and significance-
based features”, *Proc. of 2nd Intl Conf. on Computational Intelligence in Medicine and Healthcare (CIMED2005)*, Lisbon, Portugal, June 29-July 1, 2005.


- **Books and edited book chapters:**

- **Patents:** none

**C – Awards & Distinctions**

**D – Funded Projects**

- **Current projects:**
  - Co-Principal investigator for TUC, project TOWL: Time–determined ontology based information system for real time stock, STREP, FP6, Period 2005-2008, Total Budget 1,968,767 €, PI’s budget 244,402 €
  
  - Principal investigator for TUC, project HERPS Center: *Training Centre for Health Care, Prophylactic and Rehabilitation Services, LEONARDO DA VINCI* Community Vocational Training Action, 2nd phase, Period 2005-2007, PI’s budget 46,538 €
  
  
  - Principal investigator for TUC, project BIOPATTERN: Computational intelligence for biopattern analysis in support of eHealthcare, Network of Excellence, FP6.Period 2004-2006, Total budget 3,400,000 €, PI’s budget 264,630 €
Co-Principal investigator for TUC, project MULTI_MINE: Multimedia data management and mining, Greek research network program sponsored by the Greek Secretariat of Research and Technology, Period 2003-2005, Total budget 180,000 €, PI’s budget 18,000 €

Principal investigator for TUC, project Health-Prototype, Greek research network program sponsored by the Greek Secretariat of Research and Technology, Period 2003-2005, PI’s budget 12,000 €

- Project proposals submitted:
  - Over 10 from 2004 to Sept 2005

E – Professional service

- Associate Editor duties
- Society Technical Committee duties
  - Session Chair IEEE EMBS’04 Conference, San Francisco, September 1-5 2004
  - Session Chair, Intl Conf. on Computational Intelligence in Medicine and Healthcare (CIMED2005), Lisbon, Portugal, June 29-July 1, 2005
  - Session Chair, Emerging Aspects of Clinical Data Analysis (EACDA 2005), Pisa, Italy, Sept. 28-30, 2005
- Conference Technical Program Committee service
  - Programme Committee Member: ESANN'2004, 2005, 2006 (European Symposium on Artificial Neural networks).
  - Organizing Committee Member: MEDSIP 2005, 2006 (International Conference on Advances in Medical, Signal and Information Processing)
  - Local Organizing Committee: ICANN-06 (International Conference on Artificial Neural Networks)
- Conference Organization (specify role)
- Reviewing activities:
- Participation in National Committees (e.g., ΕΔΕΤ)
- Other

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

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Ioannis Dimou PhD student
    - Michalis Kounelakis, PhD student
    - Michalis Blazantonakis PhD student
    - Vaggelis Sakkalis, PhD student
    - Stefanos Goumas PhD student
    - George Manikis MSc student
    - Antonis Tsichlas MSc student
    - Kostantina Moirogiorgou MSc student
    - Nikolas Markopoulos MSc student
    - Zacharias Getsis MSc student
    - Petros Xanthopoulos MSc student
    - George Livanos MSc student
    - Kostas Michalopoulos MSc student

  - PhD. And M.Sc. degrees awarded:

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Over 10
  - Diploma theses completed (supervisor):
Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

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

A – Teaching

• Undergraduate courses taught
  - TEL 201 - Signals and Systems
  - TEL 311 - Telecommunications Systems II (cross-listed)

• Graduate courses taught
  - Estimation Theory
  - Detection Theory

• Curriculum & course development
  - MATLAB exercises for Signals and Systems
  - MATLAB exercises for Telecommunications Systems II
  - MATLAB exercises for Estimation Theory
  - Lecture notes on Signals and Systems (in Greek)
  - Lecture notes on Estimation Theory (in Greek)
  - Lecture notes on Information Theory (in Greek)
B – Publications

- Publications in refereed journals

- Publications in refereed conferences

C – Awards & Distinctions

D – Funded Projects

- Project proposals submitted:

E – Professional service

- Associate Editor Duties
  - Associate Editor, *IEEE Transactions on Signal Processing*
- Reviewing activities
  - Reviewer for *IEEE Transactions on Information Theory, IEEE Transactions on Signal Processing*

F – Service to the Department and the School

- School-level responsibilities
  - Member of the Library Committee
G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Tsipouridou Despoina, September 2004
    - Ampatzis Eythimios, September 2004
    - Maniadakis Apollon, September 2004
  - PhD. And M.Sc. degrees awarded
    - Lyrantonaki Theano, August 2005

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Zarbou Theodora
Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Michael Paterakis
Rank: Professor
Years in rank: 6
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Information and Computer Networks Laboratory

A – Teaching

• Undergraduate courses taught
  o TEL 401 - Computer Networks I
• Graduate courses taught
  o TEL 605 - Computer Communication Networks Protocols
• Labs taught
  o TEL 401 - Computer Networks I
• Curriculum & course development
  o Lecture notes / slides developed

B – Publications

• Publications in refereed journals
  o Submitted
- S. Chatziperis, P. Koutsakis and M. Paterakis, “A New Call Admission Control Mechanism for Multimedia Traffic over Wireless Networks”.
- A. Satsiou and M. Paterakis, “Frequency-Based Cache Management Policies for Collaborative and Non-Collaborative Topologies of Segment Based Video Caching Proxies”.

- Accepted
  - P. Koutsakis, S. Psychis and M. Paterakis, “Integrated Wireless Access for Videoconference from MPEG-4 and H.263 Video Coders with Voice, E-mail and Web Traffic over Wireless Networks”, accepted for publication in the *IEEE Transactions on Vehicular Technology*.

- Published

- Publications in refereed conferences
  - Submitted
    - A. Satsiou and M. Paterakis, “Efficient Caching of Video Content
to an Architecture of Proxies according to Frequency-Based Cache Management Policies”.


Published


C – Awards & Distinctions

D – Funded Projects

- Current projects:
E – Professional service

- **April 2004 – April 2007.** Member of the Executive Board Greek Universities Network (GUnet), a not for profit company founded by all the Greek Academic Institutions.

- **Guest Editor** for the Special Section on “Medium Access and Call Admission Control Algorithms for Next Generation Wireless Networks” of the ACM Mobile Computing and Communications Review (MC²R), published in the October 2005 issue of MC²R.

- **General Co-Chair for the:**
  - 14th IEEE Workshop on Local and Metropolitan Area Networks (LANMAN’05), Chania, Crete, Greece, 18-21 September, 2005.

- **Technical Program Committee Member** for the:

- **Session Organizer** for the session on Channel Assignment and Reservation Schemes, IEEE Vehicular Technology Conference (VTC’04 Fall), September 26-29, Los Angeles, CA.

- **Reviewing activities**
  - **Reviewer** for the international technical journals:
    - IEEE Transactions on Vehicular Technology
    - IEEE Transactions on Knowledge and Data Engineering
    - Algorithmica
    - Performance Evaluation (Elsevier Science Publisher)
    - Journal of Internet Technology.

- **Reviewer** for the international conference:

F – Service to the Department and the School

- **Departmental responsibilities**
  - June 1997 - . Director of the Graduate Program, ECE Department.

- **School-level responsibilities**


G – Advising

- Active graduate students supervised
  - Ph.D. students supervised
    - Spyros Psychis
  - M.Sc. degrees awarded
  - M.Sc. students supervised
    - Theodoros Chiras
    - Alexandros Gougousis
    - Antonis Stephanogiannis
    - Nikolaos Papalexidis
    - Sotiris Bouros

- Undergraduate students supervised
  - Diploma Theses in progress (supervisor)
    - Vassilis Kympouris, “Evaluation and Dynamic Selection of MAC Protocols Based on the Network Load in Wireless TDMA Networks”.
  - Diploma Thesis completed (supervisor)
Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Alexandros Potamianos
Rank: Associate Professor
Years in rank: 2
Full-time or part-time: Full-time
Division: Telecom
Lab affiliation: Speech and Dialog Group

A – Teaching

- Undergraduate courses taught
  - TEL 411 - Natural Language Processing
  - TEL 303 - Statistical Modeling and Pattern Recognition
  - TEL 211 - Probability and Random Processes

- Graduate courses taught
  - TEL 611 - Natural Language Processing

- Curriculum & course development
  - New courses / labs developed
  - Lecture notes / slides developed
    1. Power-point presentations for TEL 303
    2. Power-point presentations for TEL 411
  - Authored textbooks

B – Publications

- Publications in refereed journals (submitted: 1, accepted: 1, published: 2)

- Publications in refereed conferences (submitted: 5, accepted: 5, published: 3)

- Books and edited book chapters

- Patents

**C – Awards & Distinctions**

**D – Funded Projects**

- Current projects:
  - HIWIRE: Speech recognition in noisy environments, IST-FP6 STREP, from 6/2004 to 5/2007, PI and WP1 leader, total budget: 3,000,000€, PI’s budget: 270,000€
  - PENED: Speech synthesis and recognition by modeling the aerodynamics of the human vocal tract, from 11/2005 to 10/2008, PI, total budget: 180,000€, PI’s budget: 60,000€

- Project proposals submitted:
o MM-Children: multi-modal systems for children, IST-FP6 Integrated Project, total budget: 6,500,000€, PI’s budget: 800,000€
o MATLING: machine translation using linguistic knowledge, IST-FP6 STREP, total budget: 3,700,000€, PI’s budget: 450,000€

E – Professional service

- Reviewer for
  o ICASSP 2005, EUROSPeech 2005, ASRU 2005

F – Service to the Department and the School

G – Advising

- Post-docs and researchers
  o Dr. Eduardo Sanchez-Soto
  o Kelly Zervanou
- Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ Manolis Perakakis, 2nd year Ph.D
    ▪ Michalis Toutoudakis, 3rd year M.Sc.
    ▪ Christos Koniaris, 3rd year M.Sc.
    ▪ Michail Maragkakis, 2nd year M.Sc.
    ▪ Apostolis Pangos, 3rd year M.Sc.
    ▪ Panagiotis Karageorgakis, 3rd year M.Sc.
    ▪ Ilias Iosif, 1st year M.Sc.
  o PhD. And M.Sc. degrees awarded

- Undergraduate students supervised
  o Diploma theses in progress (supervisor)
    ▪ Giannis Klasinas
    ▪ Thanasis Tegos
    ▪ Fotis Garitos
    ▪ Baso Farantouri
    ▪ Giannis Milogiannakis
  o Diploma theses completed (supervisor)
    ▪ Ilias Iosif
    ▪ Kostis Dermatas
    ▪ Nikos Pallas
Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Nikos Sidiropoulos
Rank: Professor
Years in rank: 3+1/2
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

• Undergraduate courses taught
  o TEL 301 – Telecommunication Systems I (Fall 2004)
  o TEL 502 – Statistical Signal Processing for Communications (Spring 2005)

• Graduate courses taught
  o TEL 601 – Probability and Stochastic Processes (Spring 2005)

• Labs taught
  o TEL 301 – Telecommunication Systems I Lab (Fall 2004)
  o TEL 502 – Statistical Signal Processing for Communications Lab (Spring 2005)

• Curriculum & course development
  o New courses / labs developed
    1. Lab exercises for TEL 502 – Statistical Signal Processing for Communications (new)
  o Lecture notes / slides developed
    1. Lecture notes for TEL 301 – Telecommunication Systems I (revised)
  o Authored textbooks
B – Publications

• Publications in refereed journals
  o Submitted
  o Accepted
  o Published
    ▪ G. Latsoudas, N.D. Sidiropoulos, “A Hybrid Probabilistic Data Association - Sphere Decoding Detector for Multiple-Input


- **Publications in refereed conferences**
  - Submitted: same as published, see below
  - Accepted: same as published, see below
  - Published

- Books and edited book chapters
  - A. Gershman, N.D. Sidiropoulos (Eds.), *Space-Time Processing for MIMO Communications*, John Wiley & Sons, Apr. 2005.

- Patents

C – Awards & Distinctions

- Invited Plenary Lectures

D – Funded Projects

- Current projects:
  - U-BROAD: Ultra High Bit Rate over Copper Technologies for BROADband Multiservice Access”, European Commission, FP6 IST STREP project. Consortium led by Metalink, Inc. Israel; partners are Bar-Ilan University, Israel; Telecom Systems Institute, Tech. Univ. of Crete (Sidiropoulos is PI); Rad Data Com., France Telecom, TU Delft, Netherlands, and the Greek National Telecom Organization. Award Period: Dec. 2003 – Nov. 2005. Total budget is 2M Euro; Sidiropoulos' share is 170K €.

- Project proposals submitted:
Participated in three FP6 STREP proposals (March 2005): REACH, MEHEN, DISTANS.

E – Professional service

- Associate Editor duties
  - Associate Editor, *IEEE Transactions on Signal Processing*

- Society Technical Committee duties

- Conference Technical Program Committee service
  - IEEE ICASSP 2005
  - IEEE SPAWC 2005
  - IEEE SAM 2005
  - SIAM-CNRS-IEE WTD 2005

- Conference Organization (specify role)
  - General Chair, TRICAP 2006, June 2006, Chania, Crete, Greece.

- Reviewing activities
  - Reviewer for *IEEE Trans. on Signal Processing, IEEE Trans. on Communications*.

F – Service to the Department and the School

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

- School-level responsibilities
  - Member of the Board, Telecommunication Systems Institute, Technical University of Crete.
G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Georgios Latsoudas (M.Sc.). Year of initial enrollment in program: 2004.
    - Kleanthis Mokios (M.Sc.). Year of initial enrollment in program: 2003.
    - Alexandros Valyrakis (M.Sc.). Year of initial enrollment in program: 2004.
  - Undergraduate students supervised
    - Diploma theses in progress (supervisor)
      - Markos Bervenakis, “System integration aspects of experimental wireless ftp radio link over analog FM”.
    - Diploma theses completed (supervisor)
Technical University of Crete  
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Polychronis Koutsakis  
Rank: Post-Doctoral Researcher & Visiting Lecturer (Π.Δ. 407/80)  
Years in rank: 2  
Full-time or part-time: Part-Time  
Division: Telecommunications  
Lab affiliation: Information and Computer Networks Laboratory

A – Teaching

- Undergraduate courses taught  
  o “Computer Networks” (teaching assistant)
- Graduate courses taught  
  o “Special Topics in Communication Networks”, Advanced Graduate Course, taught at the Department of Electronic and Computer Engineering of the Technical University of Crete.  
  o “Special Topics in Telecommunications Systems”, Advanced Graduate Course, taught at the Department of Electronic and Computer Engineering of the Technical University of Crete.

B – Publications

- Publications in refereed journals  
  o Submitted

- Accepted

- P. Koutsakis, “Scheduling and Traffic Policing for Variably Demanding Video Traffic Integrated with Voice and Data Traffic in
4th Generation Wireless Networks”, accepted for publication in the Springer Wireless Personal Communications Journal.

- Published

- Publications in refereed conferences
  - Submitted
    - **P. Koutsakis** and H. Papadakis, “Downlink Scheduling and Call Admission Control for Voice, Video, WAP and SMS Traffic over High Capacity Wireless Picocellular Networks”.

- Accepted

- Published

**C – Awards & Distinctions**

**D – Funded Projects**

- Current projects:

**E – Professional service**

- *Guest Editor* for the Special Section on “Medium Access and Call Admission Control Algorithms for Next Generation Wireless Networks” of the ACM Mobile
Computing and Communications Review (MC²R), which will be published in the last quarter issue of 2005 of MC²R.

- **Research Project Proposal Reviewer** for the Dutch Technology Foundation (STW)
- **Technical Program Committee Member** for
  - IEEE Conference on Pervasive Computing and Communications (PerCom) 2006.
  - IEEE GLOBECOM 2006 Symposium on Satellite and Space Communications.

- **Reviewer** for the international technical journals:
  - IEEE Journal on Selected Areas in Communications.
  - IEEE/ACM Transactions on Networking.
  - IEEE Transactions on Wireless Communications
  - IEEE Transactions on Mobile Computing
  - IEEE Network
  - IEEE Communications Magazine
  - IEEE Communications Letters
  - Wireless Networks Journal (Springer Publ.)
  - Wireless Personal Communications Journal (Springer Publ.)
  - Computer Networks Journal (Elsevier Science Publisher)

- **Reviewer** for the international conferences:
  - International Conference on Personal Wireless Communications 2003 (PWC’03)
  - IEEE International Conference on Communications 2004 (ICC 2004)
  - 3rd IFIP Networking Conference (Networking 2004)

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

**G – Advising**

- Active graduate students supervised
  - M.Sc. students supervised

- Undergraduate students supervised
  - Diploma theses in progress (committee member)

Diploma theses completed (committee member)
Computer Engineering Division

Faculty members:

- Manolis Koubarakis, Associate Professor
- Euripides Petrakis, Associate Professor
- Vassilis Samoladas, Assistant Professor
- Stavros Christodoulakis, Professor
Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Manolis Koubarakis  
Rank: Associate Professor  
Years in rank: 3 years and 8 months  
Full-time or part-time: Full-time  
Division: Computer Engineering  
Lab affiliation: Intelligent Systems Engineering

A – Teaching

- Undergraduate courses taught  
  - COMP 411 - Compilers (Fall 2004)  
  - COMP 405 - Artificial Intelligence (Fall 2004)

- Graduate courses taught  
  - AIS 413/606 Agent-Based Computing (Spring 2005)

- Curriculum & course development  
  - Lecture notes / slides developed  
    1. COMP 411, COMP 405 and AIS 413/606 slides (revised)

B – Publications

- Publications in refereed journals  
  - Submitted  
    - Manolis Koubarakis, Christos Tryfonopoulos and Spiros Skiadopoulos. ‘Logic and Computational Complexity for Boolean Information Retrieval’, IEEE Transactions on Knowledge and Data Engineering. Submitted.
Accepted


- Spiros Skiadopoulos, Christos Giannoukos, Nikos Sarkas, Panos Vassiliadis, Timos Sellis and Manolis Koubarakis, “Computing and Managing Cardinal Direction Relations”, *IEEE Transactions on Knowledge and Data Engineering. Forthcoming.*

Published


• Publications in refereed conferences
  - Submitted
  - Accepted

- Stratos Idreos, Christos Tryfonopoulos, Manolis Koubarakis, “Distributed Evaluation of Continuous Equi-join Queries over Large Structured Overlay Networks”. In *Proceedings of the 22nd International Conference on Data Engineering (ICDE)*, Atlanta, USA, April 2006. To appear.
• Books and edited book chapters

C – Awards & Distinctions

• Paper awards

This paper received the **DELOS Research Exchange Award**. This is essentially a best student paper award that offers the principal student author of the paper (Christos Tryfonopoulos) funding for visiting one of the nodes of the DELOS Network of Excellence in Digital Libraries for one month.

• Invited talks

D – Funded Projects

• Current projects:


  o Evergrowing Global Scale-Free Networks: their Provision, Repair and Unique Functions (EVERGROW), Sponsor: European Commission. Framework VI, IST FET Complex Systems


E – Professional service

- Associate Editor duties

- Conference Technical Program Committee service

**PC Member 2006**


**2005**

- 13th International Conference on Cooperative Information System (CoopIS 2005), Agia Napa, Cyprus, October 31 - November 4 2005.

- Peer-2-Peer Infrastructures and Applications, Software Technology Track, Thirty-Eight Annual Hawaii International Conference on System Sciences (HICSS-38), Big Island of Hawaii, January 3 - 6, 2005.
o Fourth International Joint Conference on Autonomous Agents & Multi-Agent Systems (AAMAS 2005), Utrecht, the Netherlands, July 2005.


o ACM Fourteenth Conference on Information and Knowledge Management (CIKM2005), Bremen, Germany, 31th October – 5 November 2005.

o International Workshop on Data Integration and Semantic Web (DISWEb 2005). In conjunction with CAiSE 2005, Porto, Portugal.


o 3rd Workshop on Engineering Self-Organizing Applications (ESOA'05) collocated with AMAS'05.

o 2nd European Semantic Web Conference (ESWC’05) Heraklion, Crete, Greece, May 29 to 1 June, 2005.


o IEEE International Conference on Pervasive Services 2005 (ICPS'05), Santorini, Greece, 11-14 July 2005

o 4th International Semantic Web Conference (ISWC 2005), 2005Galway, Ireland, 6th - 10th November


- Second International Workshop on Peer-to-Peer Knowledge Management (P2PKM), collocated with the MobiQuitous’05, San Diego (CA, USA), July 2005.

- 1st Workshop on Semantics in Mobile Environments (SME’05), in conjunction with the 6th MDM’05, Ayia Napa, Cyprus, May 9 2005.

- Seventeenth International Conference on Scientific and Statistical Database Management (SSDBM 2005), University of California, Santa Barbara, 27-29 June 2005.


2004


- IEEE International Conference on Tools with Artificial Intelligence (ICTAI-04), Boca Raton, Florida, November 15-17, 2004.


- 2nd International Workshop on Peer-to-Peer Knowledge Management (P2PKM) in conjunction with MobiQuitous2004.

- AgentLink III European Network of Excellence First Technical Forum, 30 June - 2 July 2004, Rome, Italy.

6th Workshop on Distributed Data and Structures (WDAS'2004). July 5-7, 2004. Lausanne, Switzerland.


Workshop on Coordination in Emergent Agent Societies, August 22-23, 2004. Valencia, Spain (collocated with ECAI 04).

2nd International Conference on Service Oriented Computing (ICSOC'04), November 15-19, 2004. New York, USA.


The Eleventh International Conference on Artificial Intelligence: Methodology, Systems, Applications (AIMSA 2004).


**Conference Organization**
- Member of the Organizing Committee and Publications Chair for IX International Conference on Extending Database Technology (EDBT 2004), Heraklion, Crete, Greece, March 14-18, 2004.

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

- **Departmental responsibilities**
  - Director of the Intelligent Systems Laboratory
  - Director of the Networks Laboratory

- **School-level responsibilities**

**G – Advising**

- **Active graduate students supervised**
  - Ph.D. and M.Sc. students supervised
    - Christos Tryfonopoulos (Ph.D), 2002
    - Matoula Magiridou (PhD), 2003
    - Erietta Liarou (M.Sc), 2004
PhD. And M.Sc. degrees awarded

- Stratos Idreos. (M.Sc.), *Distributed Evaluation of Continuous Equi-join Queries in Large Structured Overlay Networks*. September 2005.

Undergraduate students supervised

- Diploma theses in progress (supervisor)
- Diploma theses completed (supervisor)
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Euripides Petrakis
Rank: Associate Professor
Years in rank: 2 + 1/2
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Intelligent Systems Laboratory

A – Teaching

• Undergraduate courses taught
  o EKP 404 - Multimedia Data Management
  o EKP 406 - Computer Vision

• Graduate courses taught
  o EKP 404 - Multimedia Data Management

• Labs taught
  o EKP 404 - Multimedia Data Management
  o EKP 406 - Computer Vision

• Curriculum & course development
  o New courses / labs developed
    1. Multimedia Data Management

  o Lecture notes / slides developed
    1. Multimedia Data Management, Computer Vision

B – Publications

• Publications in refereed journals
Submitted:

- Giannis Varelas, Angelos Hliaoutakis, Epimenidis Voutsakis, Paraskevi Raftopoulou, **Euripides G.M. Petrakis**, Evangelos E. Milios “Semantic Similarity Methods for Information Retrieval in Medical Information Systems and the Web”, *IEEE Trans. On Knowledge and Data Engineering, Special Issue on “Knowledge and Data Engineering in the Semantic Web Era”*

Accepted

Published

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

- Books and edited book chapters: none

- Patents: none

**C – Awards & Distinctions**

**D – Funded Projects**
Current projects:
- Project Coordinator, Principal investigator for TUC, Project TOWL: Time–determined ontology based information system for real time stock, STREP, FP6, Period 2005-2008, Total Budget 1,968,767 €, PI’s budget 244,402 €.
- Principal investigator for TUC, Project MULTI_MINE: Multimedia data management and mining, Greek research network program sponsored by the Greek Secretariat of Research and Technology, Period 2003-2005, Total budget 180,000 €, PI’s budget 18,000 €.
- Irakleitos Fellowship Program, “Multimedia Information Retrieval on the Web”, Period 2003-2005, Budget: 34,000 €

Project proposals submitted:
- Over 10

E – Professional service

- Session Chair
  - Session Chair, (session 2: XML Data Management and Web Discovery) 7th ACM International Workshop on Web Information and Data Management (WIDM 2005), Nov. 5, 2005, Bremen, Germany

- Conference Technical Program Committee service
  - Member of the Program committee of RIAO,2004 “Coupling Approaches, Coupling Media and Coupling Languages for Information Retrieval”, Avignon (Vaucluse), (http://www.riao.org)
Member of the Program committed of the “International Conference on Image Processing” (ICIP 2003), Barcelona, Spain, Sept. 14-17, 2003 (http://www.icip2003.org)


Member of the judge team at the South-Eastern European Regional Contest of the ACM International Collegiate Programming Contest, October 18-21, 2001, Bucharest, Romania (http://apollo.cs.pub.ro/acm/)

Member of the program committee of the “IEEE International Conference on Information, Intelligence and Systems” (ICIIs’99), November 1-3 1999, Washington DC, USA (http://iciis99.cs.unr.edu).

Reviewing activities:


F – Service to the Department and the School

Departmental responsibilities

School-level responsibilities

G – Advising

Active graduate students supervised

- Ph.D. and M.Sc. students supervised
  - Paraskevi Raftopoulou, PhD student, enrollment in program 2003, Topic: “Knowledge Sharing in P2P Networks”
  - Nikos Hourdakis, MsC student, enrollment in program 2004, Topic: Semantic Information Clustering
  - Giannis Varelas, MsC Student, enrollment in program 2005, Topic: Time Ontologies
  - Angelos Hliaoutakis, MsC student, enrollment in program 2005, Topic: Medical Information Systems
  - Evdoksios Mparatis, MsC student, enrollment in program 2005, Topic: Web Site Summarization
- Sotiris Batsakis, MsC student, Topic: Focused Crawling

  o PhD. And M.Sc. degrees awarded

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Over 10
  - Diploma theses completed (supervisor):
    - Angelos Hliaoutakis: “Semantic Similarity Measures and their Applications to Medical Information Retrieval”
    - Evdokios Baratis: “Automatic Logo and Trademark Extraction from Large Corporate Web Sites”, 2005
Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Stavros Christodoulakis
Rank: Professor
Years in rank: 17
Full-time or part-time: Full time
Division: Informatics
Lab affiliation: Music-Director

A – Teaching

- Undergraduate courses taught
  - COMP 311 - Data Bases
  - EKP 403 - Web applications
  - EKP 412 - Information and Service Integration

- Graduate courses taught
  - EKP 606 - Web applications
  - EKP 604 - Information and Service Integration

- Labs taught
  - Data Bases
  - Web applications
  - Information and Service Integration

- Curriculum & course development
  - New courses / labs developed
    1. Web applications assignment/project, Information and Service Integration/project
  - Lecture notes / slides developed
    1. B application slides, Information and service integration slides.
B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted
  - Published

- Publications in refereed conferences
  - Submitted
  - Accepted
  - Published
    - A. Karanastasi, S. Christodoulakis: "OntoNL: An Ontology-based Natural Language Interface Generator for Multimedia Repositories", Seventh International Workshop of the EU Network of Excellence DELOS on AUDIO-VISUAL CONTENT AND INFORMATION VISUALIZATION IN DIGITAL LIBRARIES (AVIVDiLib'05), May 2005
    - Tsinaraki C., Polydoros P., Christodoulakis S. "GraphOnto: A Component and a User Interface for the Definition and Use of Ontologies in Multimedia Information Systems", In the Proceedings of AVIVDiLib 2005, Cortona, Italy, April 2005

- Books and edited book chapters

- Patents

**C – Awards & Distinctions**

- Diploma Thesis Award for Electronic Engineers by TEE to Xenia Arapi (thesis supervisor Stavros Christodoulakis)

**D – Funded Projects**

- Current projects:
  - Digital Business Ecosystems, EU IST project, 2003-2006, 529218 €
  - LOGOS, EU IST project (to start next year).
  - EPEAEK Pliroforikis, (undergraduate, graduate), 2003-2006, 888778 €.

**E – Professional service**

- Associate Editor duties
• Society Technical Committee duties
• Conference Technical Program Committee service
  o Program committee member in: ECDL 05, AVIVDLib 05, ACM CIKM 05, EDBT 05, EDBT 06, ECIR 05, ECIR 06, IEEE ICME 05, IEEE ICPR 05, IMSA 05, IASTED 05,
• Conference Organization (specify role)
  o Conference Steering Committee Board: ECDL
  o Conference Steering Committee Board: EDBT
• Participation in National Committees
  o Scientific Board of the National Documentation Center
• Other
  o Member of the Scientific Board: Delos Excellence Network on Digital Libraries
  o Co-Director: Cluster of Multimedia Digital Libraries in the Delos Excellence Network on Digital Libraries

F – Service to the Department and the School

• Departmental responsibilities
  o Lab Director: MUSIC
  o Responsibility for Department-wide projects: Responsible for:
    ▪ EPEAEK Pliroforikis (undergraduate)
    ▪ EPEAEK Pliroforikis (graduate)
    ▪ ETPA (equipment)
• School-level responsibilities
  o Member of the Board: Institute of Telecommunications
  o Departmental Steering Committee: Department of Architecture

G – Advising

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

- Chrisa Tsinaraki, PhD
- Nektarios Moumoutzis, PhD
- Giorgos Anestis, PhD
- Giorgos Kotopoulos, MEng
- Yannis Kotopoulos, MEng
- Xenia Arapi, MEng
- Anastasia Karanastasi, MEng
- Giorgos Dabizias, MEng
- Stratos Georgoulakis, MEng
- Michalis Foukarakis, MEng

MSc. degrees awarded

- Undergraduate students supervised

Diploma theses completed (supervisor)

Annual Activity Report

For the period: Sept 1st 2004 to Aug 31, 2005

Name: Vasilis Samoladas
Rank: Assistant professor
Years in rank: 2
Full-time or part-time: full time
Division: Computer engineering
Lab affiliation: Software technology and network applications

A – Teaching

• Undergraduate courses taught
  o ΠΛΗ-301 Operating Systems
  o ΠΛΗ-302 Algorithms and Complexity
  o ΠΛΗ-414 Principles of Distributed Software Systems

• Graduate courses taught
  o ΠΛΗ-602 Principles of Distributed Software Systems

• Curriculum & course development
  o New courses / labs developed
    ▪ Developed ΠΛΗ-302 Algorithms and Complexity course, given for the first time as a core course
  o Lecture notes / slides developed
    ▪ Complete set of lecture slides for ΠΛΗ-301 Operating Systems
  o Authored textbooks

B – Publications

• Publications in refereed journals
• Submitted
• Accepted
• Published

• Publications in refereed conferences

• Books and edited book chapters

• Patents

C – Awards & Distinctions

D – Funded Projects

• Current projects:
  • PYTHAGORAS-I (GSRT), 9/2004-6/2006, single PI, 57600€

E – Professional service

• Conference Technical Program Committee service
  • Autonomous Agent and Multi-Agent Systems (AAMAS 2005)
• Reviewing activities
  • Information Processing Letters (IPL)
  • Data and Knowledge Engineering (DKE)

F – Service to the Department and the School

• School-level responsibilities
  • Regular Member of University Senate

G – Advising

• Active graduate students supervised
  • Ph.D. and M.Sc. students supervised
    • George Hatzisymeon (PhD), 1st year
    • Anni Xiruhaki (PhD), 1st year
- Christos Smaragdakis (MSc), 2nd year
- Stergios Charalambakis (MSc), 1st year
- Yiannis Botsis (MSc), 1st year
  - PhD. And M.Sc. degrees awarded
- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - George Elias
    - Christos Tsiamantas
    - Panagiotis Drakotos
    - George Yiannakaras
    - Panagiotis Paterakis
  - Diploma theses completed (supervisor)
    - Yiannis Margaritis
    - Adrianos Ntantis
    - Giorgos Dementis
  - Diploma theses in progress (committee member)
  - Diploma theses completed (committee member)
    - Vasilis Dimopoylos
    - Dimitrios Sarafis
    - Nikos Giannopoulos
    - Eleni Psara
    - Erietta Liaroy
    - Petros Gabras
    - Epimenidis Voytsakis
    - Dimitris Lambridis
Electronics and Computer Architecture Division

Faculty members:

- Costantinos Balas, Associate Professor
- Mathias Bucher, Assistant Professor
- Apostolos Dollas, Professor
- Kostas Kalaitzakis, Professor
- Dionisis Pnevmatikatos, Associate Professor
- Apostolos Samelis, Assistant Professor
- Georgios Stavrakakis, Professor
- Eftihios Koutroulis, Visiting Lecturer
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Apostolos Dollas
Rank: Professor
Years in rank: 4
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
  - HRY 201 - Digital Computers (Mandatory, Fall Semester)
  - ARY 401 - Microprocessor-Based Real-Time Systems Implementation (Mandatory, Spring Semester)

- Graduate courses taught
  - HRY 631 - Special Topics on FPGA Computing

- Labs taught
  - HRY 201 (actually conducted the teaching and examination of all labs)
  - ARY 401 (supervised the teaching of labs and projects, developed the project specifications and supervised one-on-one class students doing advanced projects)

- Curriculum & course development
  - New courses / labs developed
    1. Continued on the development of the new HRY 401 (Embedded Microprocessor Systems) and HRY 412 (Microelectronic Systems Design) which replace the ARY 402 course and have not been offered yet.
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, and revised the class notes of HRY 201, Digital Computers.

o Authored textbooks:

**B – Publications**

- Publications in refereed journals
  o Submitted
  o Accepted
  o Published

- Publications in refereed conferences
  o Submitted
  o Accepted
  o Published
• Books and edited book chapters

• Patents

C – Awards & Distinctions

• Fellowships, Visiting Professorships
  o Visiting Professor, Information Technology Research Institute, Wright State University, Dayton, Ohio, USA (on sabbatical at ITRI since August, 2005).

D – Funded Projects

• Current projects:
  o GSRT “IRAKLEITOS: Research Scholarships for TUC”, Program. TUC Budget 398778 €. Under it is the sub-program “Structures for Reconfigurable Computing”, (PhD Thesis support for E. Sotiriades), Apostolos Dollas, PI, 32229 € (all budget is in TUC)
  o Information Society (3rd EU Framework of Support to Greece), “Advanced Telematic Services – Tele-education” (M.10), 216102 €, Technical University of Crete Campus-Wide PI: A. Dollas, 2001-2003. (should have been completed but final acceptance letter of the project is still pending from the Information Society).
  o Information Society (3rd EU Framework of Support to Greece), “Information Society Related Upgrade of the Technical University of Crete Infrastructure (M. 7), 154625 €. Technical University of Crete Campus-Wide PI: A. Dollas, 2001-2003. (should have been completed but final acceptance letter of the project is still pending from the Information Society).

• Project proposals submitted:
o “Scientific Equipment for the Departments of the Technical University of Crete”, Total Proposal Budget 1615000 €. Under it is the proposal for “Acquisition of a GRID computer for the Technical University of Crete”, submitted to the Greek Ministry of Education, Apostolos Dollas, PI. Total budget for the GRID computer proposal: 320000 €.

E – Professional service

• Conference Technical Program Committee service
  o Program Committee Member 13th IEEE Symposium on Field Programmable Custom Computing Machines (FCCM), Napa Valley, USA, April, 2005.
  o Program Committee Member 16th IEEE International Workshop on Rapid System Prototyping (RSP), Montreal, Canada, June, 2005.
  o Program Committee Member, 4th Workshop on Application Specific Processors (WASP) ’05, New York, September 22, 2005.
  o Technical Program Committee, 18th SBCCI 2005 (SYMPOSIUM ON INTEGRATED CIRCUITS AND SYSTEMS DESIGN), Florianopolis - Brasil on September 4-7, 2005.
  o Program Committee Member, 4th IEEE International Conference on Field-Programmable Technology (FPT 2005), Singapore, December 11-14, 2005.
  o Program Committee member, 10th Panhellenic Conference on Informatics, Volos, Greece, November 11-13, 2005.

In all the program committees in which I participated, I contributed with reviews of papers (as many as 13 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.

• Conference Organization (specify role)
  o As Program Committee member and past Program Chairman and past General Chairman of the IEEE International Workshop on Rapid System Prototyping I succeeded in bringing the 17th IEEE RSP Workshop to Chania in 2006.

• Reviewing activities
  o Several international conferences, including all in which I participate in the program committee.
F – Service to the Department and the School

- Departmental responsibilities
  - Chair, Vice-Chair, Lab Director, NOC director, …
    - Director, Microprocessor and Hardware Laboratory
    - Member, Undergraduate Studies Committee
  - Responsibility for Department-wide projects (e.g., ΕΠΕΑΕΚ, practical training, …)
    - Coordinator on behalf of the ECE Dept. of the TUC-wide GRID computer proposal, under appointment by the Departmental General Assembly.

- School-level responsibilities
  - Other
    - Advisory Committee Member for the CRINNO-UNISTEP program for technology transfer (B. Kelesidis, PI)
    - Advisory Committee of the new proposal for the TUC Liaison Office (TUC Vice-President, Prof. N. Varotsis, PI), participated in the meetings and the proposal, was replaced by Prof. S. Christodoulakis due to sabbatical leave.
    - Faculty supervisor and host (in the MHL) of the project “Bluetooth Enabled FPGA Programming” under the CRINNO – UNISTEP program.
    - Faculty advisor, TUC Students’ Radio Station group, advising on issues that include budget, relocation of the antenna, addressing of problems that occurred during a festival, etc.
    - Committee member for the proposal of the new TUC liaison office (N. Varotsis, PI) – I was replaced in Spring, 2005 by S. Christodoulakis due to my sabbatical

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Euripides Sotiriades, started Ph.D. in 2003
    - Dionissios Efstatiou, started MS in 2003
    - Iosif Koidis, started MS in 2004
    - George Vernardos, started MS in 2003
    - Petros Maragoudakis, (inactive), started MS in 2003

  - PhD. And M.Sc. degrees awarded (committee member)
    - Ioannis Sourdis
    - Georgios Papadopoulos
    - Michael Makakis
o PhD and M.Sc. Degrees (committee member)
  ▪ Dimitrios Giakoumis (MSc)
  ▪ Ioannis Ermiis(MSc)
  ▪ Dimitrios Theodoropoulos (MSc)
  ▪ Antonios Nikitakis (MSc)
  ▪ Georgios Papoutsakis (MSc)
  ▪ Aristeidis Petrakis (MSc)
  ▪ Vasileios Dimopoulos (MSc)

- Undergraduate students supervised
  o Diploma theses in progress (supervisor – will be in Chania for the defense)
    ▪ Konstantinos Kazakos
    ▪ Grigoris Chrysos
    ▪ Christos Kozanitis
    ▪ Konstantinos Kouinis (inactive)

  o Diploma theses completed (supervisor)
    ▪ Ioannis Ermiis
    ▪ Elias Polytarchos
    ▪ Katerina Roumpou
    ▪ Elias Sofikiths

  o Diploma theses in progress (committee member)
    ▪ Antonios Lasithiotakis (under replacement due to sabbatical)
    ▪ Charalambos Charalambous (under replacement due to sabbatical)

  o Diploma theses completed (committee member)
    ▪ Vasileios Dimopoulos
    ▪ Dimitrios Lambridis
Annual Activity Report

For the period: Sept. 1, 2004 to Aug. 31, 2005

Name: Kostas Kalaitzakis
Rank: Professor
Years in rank: 2
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 – Electronic Measurements and Sensors (7th semester)
  - HRY 212 - Electric Circuits Analysis (4th semester)

- Graduate courses taught
  - Special topics on Electronics Measurements and Sensors

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

- Curriculum & course development
  - New courses / labs developed
    - Electronic Measurements and Sensors (7th semester)
  - Lecture notes / slides developed
    - Electronic Measurements and Sensors (7th semester)
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

D – Funded Projects

• Current projects:

• Project proposals submitted:

E – Professional service

• Conference Organization (specify role)
  o XVII International Conference on Electric Machines ICEM 2006, member of local organizing committee

• Reviewing activities:
  o IEEE Transactions on Industrial Electronics
  o IEEE Transactions on Circuits and Systems II
  o IEEE Transactions on Power Electronics
  o Renewable Energy
  o IEE-Electronics Letters

F – Service to the Department and the School

• Departmental responsibilities

• School-level responsibilities
  o Other
    ▪ Head of the Technical Committee

G – Advising

• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ Tripolitakis E., “Energy Management in Buildings”
PhD. And M.Sc. degrees awarded

Undergraduate students supervised

Diploma theses in progress (supervisor)

- N. Loukas, “Development of a Microcontroller-Based System for Photovoltaic Maximum Power Point Tracking Under Partial Shadowing Conditions”.
- N. Tsitsopoulos, “DC/AC Inverter Harmonics Elimination Using Genetic algorithms”.

Diploma theses completed (supervisor)

Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Costantinos Balas
Rank: Associate Professor
Years in rank: 3+1/2
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture Division
Lab affiliation: Electronics Laboratory

A – Teaching

- Undergraduate courses taught
  - HRY 301 - Electronics I
  - HRY 414 - Optoelectronics

- Graduate courses taught
  - Special Topics on Optoelectronics & Biomedical Engineering

- Labs taught
  - HRY 301 - Electronics I
  - HRY 414 - Optoelectronics

- Curriculum & course development
  - New courses / labs developed
    1. Optoelectronics course
    2. Optoelectronics Lab
  - Lecture notes / slides developed
    - HRY 301 - Electronics I: 150 pages notes, 250 slides
    - HRY 414 - Optoelectronics: 350 slides

  - Authored textbooks
B – Publications

- Publications in refereed journals
  - Published

- Publications in refereed conferences
  - Published
    - Konstantinos Rapantzikos, **Costas Balas** “Hyperspectral imaging: potential in non-destructive analysis of palimpsests”: *IEEE-International Conference on Image Processing (ICIP)*, September 11-14, 2005, Genova

- Books and edited book chapters
  - **Costas Balas**, E. Diakomanolis, Pat Soutter, “*Dynamic Spectral Imaging of the Cervix*”, Chapter in *Colposcopy*, eds A. Singer, J. Jordan (submitted)

C – Awards & Distinctions

- Invited Plenary Lectures
  - Symposium on “Computer Applications in Women's Health Care”
    - New York City, NY, USA, 2005

D – Funded Projects

E – Professional service

- Conference Technical Program Committee service:
  - Conference on Lasers and Electro-Optics (CLEO), Baltimore, Maryland, USA 2005 (sponsored by Optical Society of America and IEEE-LEOS): Program committee member, session presider, paper review.

- Reviewing activities:
  - Reviewer for *IEEE Trans. on Biomedical Engineering*, CLEO
F – Service to the Department and the School

- Departmental responsibilities
  - Member of Dept’s Buildings and Premises Committee

- School-level responsibilities
  - Deputy Member of University Senate

G – Advising

- Active Graduate Students Supervised
  - M Sc. Students Supervised
    - Papadakis Manolis, 2003 (thesis defense is scheduled for 10/05)
    - Potirakis Antonis, 2003 (awarded 10/05)
    - Tsapras Athanasios, 2003 (thesis defense is scheduled for 11/05)
    - Terzakis Manolis, 2004
    - Papoutsoglou Giorgos, 2005

- M Sc Degrees Awarded

- Undergraduate Students Supervised
  - Diploma Thesis Completed (supervisor)
    - Terzakis Manos
    - Pantos Minas,
    - Papoutsoglou George
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

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

A – Teaching

- Undergraduate courses taught
  - ECE 111 - Digital Design, 2nd semester
  - ECE 506 - Analog CMOS IC Design & MOSFET Physics, 9th semester

- Graduate courses taught
  - ECE 604 - Special Themes of Analog CMOS IC Design

- Labs taught
  - ECE 111 - Digital Design, 2nd semester

- Curriculum & course development
  - New courses / labs developed
  - Lecture notes / slides developed
    1. ECE 506 - Analog CMOS IC Design & MOSFET Physics, 9th semester

B – Publications

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


Invited Talks/Tutorials/Panel presentations


Books and edited book chapters


Patents

C – Awards & Distinctions

D – Funded Projects

Current projects:
  o RF CMOS Infineon, Sponsor Infineon Technologies, Munich, Germany
    PI: M. Bucher, Period 1/2/2004 - 31/1/2006, Total budget: 50.000 €, PI’s budget 50.000 €

  o RF CMOS Toshiba, Sponsor Toshiba Semiconductor, Tokyo, Japan,

Project proposals submitted:
  o Rejected, SmartNano, Research Training Network (Marie Curie Actions, FP6-2004-Mobility-1), Sponsor EU, co-PI: M. Bucher, Period 2004-2007

E – Professional service

Reviewing activities
  o Reviewer for IEEE Trans. Electron Devices Solid-State Electronics, IEICE Trans. on Electronics, IEEE ICECS
F – Service to the Department and the School

- Departmental responsibilities
- School-level responsibilities

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - PhD. And M.Sc. degrees awarded
- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Diamantakos Dimitrios
    - Karefylakis Michael
    - Lathourakis Kyriakos
    - Mavredakis Nikos
  - Diploma theses completed (supervisor)
  - Diploma theses in progress (committee member)
  - Diploma theses completed (committee member)
    - Iliofotou Marios, (7/2005)
    - Konstantopoulos George, (2/2005)
Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Dionisis Pnevmatikatos
Rank: Associate Professor
Years in rank: 3
Full-time or part-time: Full-time
Division: Electronic & Computer Architecture
Lab affiliation: Microprocessor & Hardware Laboratory

A – Teaching

- Undergraduate courses taught
  - Computer Architecture
  - Advanced Logic Design

- Graduate courses taught
  - Network Processor Architecture

- Labs taught
  - Computer Architecture
  - Advanced Logic Design

- Curriculum & course development
  - New labs for the Advanced Logic Design class
  - Translation of the Hennessy & Patterson textbook “Computer Architecture – A Quantitative Approach” with colleagues D. Serpanos and G. Stamoulis

B – Publications

- Publications in refereed journals

• Publications in refereed conferences
  o Giorgos Papadopoulos and Dionisios N. Pnevmatikatos, ‘‘Hashing + Memory = Low Cost, Exact Pattern Matching’’, Proceedings of the 15th International Conference on Field Programmable Logic and Applications (FPL), August 24-26, 2005, Tampere, Finland.
  o Ioannis Sourdis, Dionisios N. Pnevmatikatos, Stephan Wong, and Stamatis Vassiliadis, ‘‘A Reconfigurable Perfect-Hashing Scheme for Packet Inspection’’, Proceedings of the 15th International Conference on Field Programmable Logic and Applications (FPL), August 24-26, 2005, Tampere, Finland.

• Books and edited book chapters

C – Awards & Distinctions

D – Funded Projects

• ΠΑΒΕΤ-ΝΕ: ΕΡΜΗΣ: Design and development of novel complex integrated circuit for embedded networked systems supporting user service bouquets. Period: 01/01/05-31/12/06. Total budget: 574.980€, TUC budget: 53000€

• Submission, OpenDSP [Co-operative Research proposal]
• Submission, Proposal 98 tele-education, TUC PI.

E – Professional service

• PCI2005 (Program Committee)
• Reviewer for

F – Service to the Department and the School

• Departmental responsibilities
o NOC Director
  o Responsible for the Department-wide practical training project

- School-level responsibilities
  o Member, Computing Center & Network Committee
  o Member, Textbook Committee

**G – Advising**

- Active graduate students supervised
  o M.Sc. students supervised
    ▪ Giakoumis Dimitrios
    ▪ Theodoropoulos Dimitrios
    ▪ Nikitakis Antonios
    ▪ Dimopoulos Basileios

  o M.Sc. degrees awarded
    ▪ Papadopoulos George

- Undergraduate students supervised
  o Diploma theses in progress (supervisor)
    ▪ Bouras Efstathios
    ▪ Xaralampous Xaralampos

  o Diploma theses completed (supervisor)
    ▪ Dimopoulos Basileios
    ▪ Bountas Dimitrios
    ▪ Lampridis Dimitrios
    ▪ Radis Serafeim
    ▪ Iliofotou Marios

  o Diploma theses in progress (committee member)
  o Diploma theses completed (committee member)
    ▪ Margaritis Iwannis
    ▪ Kazakos Konstantinos
Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Apostolos Samelis
Rank: Assistant Professor
Years in rank: 2
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Electronics Laboratory

A – Teaching

• Undergraduate courses taught
  o HRY 311 - Electronics II
  o HRY 501 - Introduction to VLSI

• Graduate courses taught
  o HRY 630 - Special Topics on Circuit and System Design

• Labs taught

• Curriculum & course development
  o New courses / labs developed
  o Lecture notes / slides developed
    ▪ Lectures on both HRY 311 and HRY 501 available now on the electronics laboratory web site (www.electronics.tuc.gr)
  o Authored textbooks

B – Publications

• Publications in refereed journals
Publications in refereed conferences

- Submitted
- Accepted
- Published


Books and edited book chapters

Patents


Technical Reports:

- A. Samelis, N. Prelorentzos, A. Tzimas, T. Varelas, “HBT Integrated SiGe Transceiver For Hiperlan”. Deliverable to FP5 programme “PERLA” (IST-2000-30132) on an 802.16d (or 802.16-2004) front-end demonstrator, the experimental setup, simulated and measured results comparison and improvements of the current product to fully comply with 802.16d specifications

C – Awards & Distinctions

D – Funded Projects

Current projects:


Project proposals submitted:

- Project 1: Coordinator of proposals “Semiconductor Modeling in an Advanced Research Training Network (SMART-N)” and “Semiconductor

- Submitted
- Accepted
- Published
Modelling Advances Research Towards Nanoelectronics”, 6th Framework Programme, EC, Marie Curie Research & Training Network, Mobility-1 program (judged fundable, but not funded due to unavailability of funds).

- Project 3: ΠΕΝΕΔ 2003. Proposal for R&D in power amplifier design for 802.16a (WiMAX) networks. Funded by GSRT, budget is 165K Euro, will support three PhDs.

E – Professional service

- Reviewing activities

F – Service to the Department and the School

- Departmental responsibilities
- School-level responsibilities
  - Deputy Member of University Senate 2004-2005
  - Member of undergraduate studies committee

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Georgios Konstantopoulos, 2005, M.Sc.
  - PhD. And M.Sc. degrees awarded

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Charalampos Andreou
    - Dimitrios Karagiannakis
    - Nikolaos Makirs
    - Georgios Mylonas
    - Spyros Voutsas
  - Diploma theses completed (supervisor)
• Φώτης Καραμπατζάκης, “Σχεδίαση Διαφορικού Ταλαντωτή Ελεγχόμενου από Τάση στα 5.5GHz σε Τεχνολογία SiGe BiCMOS 0.5μm”, 2004.
• Γιώργος Κωνσταντόπουλος, “Σχεδίαση Τελεστικού Ενισχυτή σε Τάση Τροφοδοσίας 1V σε Τεχνολογία 0.5μm SiGe BiCMOS”, Φεβρ. 2005.
Annual Activity Report

For the period: Sept. 1, 2004 to Aug. 31, 2005

Name: George Stavrakakis
Rank: Professor
Years in rank: 10
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
  - HRY 202 - Basic Circuit Theory
  - HRY 416 - Renewable Energy Sources

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

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

- Curriculum & course development
  - New courses / labs developed
    1. Renewable Energy Sources - HRY 416
  - Lecture notes / slides developed
    - Renewable Energy Sources - HRY 416
  - Authored textbooks: None
B – Publications

- Publications in refereed journals
  - Submitted: 5
  - Accepted: 3
  - Published: 2 (see below)


- Publications in refereed conferences
  - Submitted: 2
  - Accepted: 2
  - Published: 2 (see below)


- Books and edited book chapters: none

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

  - Method and integrated electronic circuit for energy management subject to comfort level constraints in buildings (OBI2004010045).
C – Awards & Distinctions

- Invited Plenary Lectures

D – Funded Projects

- Current projects:
  - General Secretary of Research and Technology (GSRT) Concerted Program “Renewable Energy Sources and Energy Saving”. September 2003 – September 2006. Coordinator. (Total 1.000.000 €, TUC/TSI part 255.115 €)

- Project proposals submitted: none

E – Professional service

- Associate Editor duties: none
- Society Technical Committee duties
  - International Committee of Electrical Machines- ICEM
- Conference Technical Program Committee service
- Conference Organization (specify role)
- Reviewing activities
  - Permanent invited Reviewer of the Journal of Intelligent and Robotic Systems.
Permanent invited Reviewer of the IEEE Transactions on Energy Conversion.

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

F – Service to the Department and the School

- Departmental responsibilities: none
- School-level responsibilities
  - Member of the Technical Council of TUC
  - Advisor

G – Advising

- Active graduate students supervised
  - Ph.D. students supervised (active two)
    - Tripolitakis Evagelos
    - Nikolaou Triantafylia
    - (Inactive PhD student: Sergaki Eleftheria)
    - (Inactive MSc student: Afentakis Nikolaos)
  - M.Sc. degrees awarded
    - Xristias Panagiotis
    - Tripolitakis Evagelos
    - Markoulakis Stilianos

- Undergraduate students supervised
  - Diploma theses in progress (supervisor): 5
  - Diploma theses completed (supervisor): 5
  - Diploma theses in progress (committee member): 4
  - Diploma theses completed (committee member): 4
Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Eftichios Koutroulis
Rank: Visiting Lecturer
Years in rank: 3
Full-time or part-time: Part-time
Division: Electronics & Computer Architecture
Lab affiliation: Electric Circuits & Renewable Energy Sources Lab.

A – Teaching

• Undergraduate courses taught
  o Power Electronics (8th semester)
  o Electric Energy Systems (9th semester)

• Graduate courses taught
  o Electric Measurements and Sensors

• Labs taught
  o Power Electronics (8th semester)

• Curriculum & course development
  o New courses / labs developed:
    ▪ Electric Energy Systems (9th semester)
  o Lecture notes / slides developed
    ▪ Electric Energy Systems (9th semester)
  o Authored textbooks

B – Publications

• Publications in refereed journals
o Submitted:

o Accepted:

o Published

- Publications in refereed conferences
  - Submitted
  - Accepted
  - Published

- Books and edited book chapters

- Patents

**C – Awards & Distinctions**

**D – Funded Projects**

**E – Professional service**

- Reviewing activities:
  - IEEE Transactions on Industrial Electronics (4 papers reviewed)
  - IEEE Transactions on Circuits and Systems II (1 paper reviewed)
  - IEEE Transactions on Power Electronics (1 paper reviewed)
  - Renewable Energy (4 papers reviewed)
  - IEE-Electronics Letters (2 papers reviewed)
F – Service to the Department and the School

- Departmental responsibilities
- School-level responsibilities

G – Advising

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
  - Diploma theses completed (supervisor)
  - Diploma theses in progress (committee member):
    - N. Loykas, “Development of a Microcontroller-Based System for Photovoltaic Maximum Power Point Tracking Under Partial Shadowing Conditions”.
    - N. Tsitsopoulos, “DC/AC Inverter Harmonics Elimination Using Genetic algorithms”.
  - Diploma theses completed (committee member):
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, 2004 to Aug. 31, 2005

Name: Peter Stavroulakis
Rank: Professor
Years in rank: 15
Full-time or part-time: Full-time
Division: Systems
Lab affiliation: Automation

A – Teaching

• Undergraduate courses taught
  o SYS 311 - Theory and Applications of Automatic Control
  o SYS 402 - Optimal Control

• Graduate courses taught
  o SYS 623 - Special Topics in Fuzzy Systems

• Labs taught
  o Related to the Course Theory and Applications of Automatic Control

• Curriculum & course development
  o New courses / labs developed
  o Lecture notes / slides developed: Related to the Course Above
  o Authored textbooks

B – Publications

• Publications in refereed journals
  o Submitted
  o Accepted
  o Published
• ‘Bayesian Neural Network Channel Equalization for OFDM’, *International Journal of Communication Systems*, 2004
• ‘Optimization the QOS of ULTRA High and Speed Moving Terminals in Cellular Networks’, *International Journal of Communications*, John Wiley, 2004
• ‘Tracking of Maneuvering and Balistic Targets with a Transmitter-Independent Receiver Network (TIRN) Using Time Difference of Arrival and a Second Order Recurrent Artificial Neural Network’, *WSEAS Transactions on Communications*, 2005
• ‘On Line Tracking Moving Targets via Angle of Arrival and Doppler Measurements Taken by a TIRN Using First Order Recurrent Linear Neural Networks’, *WSEAS Transactions on Communications*, 2005

• Publications in refereed conferences
  o Submitted
  o Accepted
  o Published
  • ‘Bayesian RBF Channel Equalization and CCI Canceller for OFDM’, *CIC/IEEE Global Mobile Congress*, Shanghai China, 2004
  • ‘On Line Tracking of Maneuvering Targets via Angle of Arrival and Doppler Measurements’, *WSEAS Communications Conference*, 2005
  • ‘Robust, Real Time Airborne Video Transmission Techniques in UHF and Microwave Channels’, *IEEE Global Mobile Congress*, Chongqing, China, 2005
  • ‘Intersatellite Link Sub-network Routing with a Hopfield Neural Network’, *the Second IASTED International Multiconference on Automation and Information Theory*, Novosibirsk, Russia, June 2005
  • ‘Novel Channel Assignment Scheme in Providing TETRA’, *Specialized Services IEEE Global Mobile Congress*, Chongqing, China, 2005
  • ‘Monopulse and Phased Array Techniques for Neural Troposcatter Link Long Range Communications’, *IASTED International Conference on Antennas and Propagation*, July, 2005, Banff, Canada

• Edited book chapters
  o ‘Heuristics for Solving Fixed Channel Assignment Problem’, Chapter in the Book *HANDBOOK OF WIRELESS NETWORKS AND MOBILE COMPUTING*
• Books
  o ‘‘Interference Analysis and Mitigation of Wireless Systems’’, Artech House, 2004
  o ‘‘Neurofuzzy and Fuzzyneural Applications in Telecommunications’’, Springer, 2004
  o ‘‘Chaos Applications in Telecommunications’’, Taylor & Francis 2005

• Books Accepted:
  o A Book Proposal on Terrestrial Trunked Radio has been accepted by the publisher SPRINGER and the book will be published in 2006

C – Awards & Distinctions

• Invited Plenary Lectures: IEEE Global Mobile Congress (Distinguished Lecturer)

D – Funded Projects

E – Professional service

• Associate Editor duties
  o Associate Editor, International Journal of Satellite Systems and Networking

• Society Technical Committee duties
  o Technical Committee on Security

• Conference Technical Program Committee IEEE
  o Member of Technical Program Committee, IEEE GMC/2005

• Conference Organization (specify role)
  o Organized a Workshop in IEEE EMC/2005
  o Presented a Tutorial in IASTED International Conference on Antenna and Propagation, Banff Canada July/2005

• Reviewing activities
  o Reviewer of IEEE (3 papers)
  o Electronic Letters (4 papers)
  o International Journal of Communication Systems (8 papers)

• Other
  o Chief Editor of a Newly Established Book Series on Security, Privacy and Technology for SPRINGER/VERLAG
F – Service to the Department and the School

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
  - PhD. And M.Sc. degrees awarded
- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Two undergraduate theses, in lieu of Prof. Christodoulou
  - Diploma theses completed (supervisor)
  - Diploma theses in progress (committee member)
  - Diploma theses completed (committee member)
Annual Activity Report

For the period: Sep. 1, 2004 to Aug. 31, 2005

Name: Manolis A. Christodoulou
Rank: Professor
Years in rank: 13
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

- 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
o Submitted
  o Accepted

o Published

- Publications in refereed conferences
  o Submitted
  o Accepted


  o Published


Books and edited book chapters

C – Awards & Distinctions
Professional service awards
  o 2005 MCA Founders Award “in recognition of significant technical contributions and outstanding long-term service to the Mediterranean Control Association and the Mediterranean Conference on Control and Automation”

Visiting Professorships:
  o University of Victoria, Canada, Course taught: “Robotics”.

D – Funded Projects

E – Professional service

• Society Technical Committee duties
  o Mediterranean Control Association, Member of the Board of Governors
• Conference Technical Program Committee service
  o International Program Committee, Member “5th International Conference on Technology and Automation ICTA’05” Thessaloniki, Greece, October 15-16, 2005.
  o International Program Committee, Member “Workshop on Modeling and Control of Complex Systems”, Ayia Napa, Cyprus, June 30-July 1, 2005.
• Conference Organization (specify role)
  o Workshop Organizer on Modeling and Control of Complex Systems, 2007 Hydra, Greece.
• Reviewing activities
  o Reviewer in various IEEE Transactions.

F – Service to the Department and the School

G – Advising

• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ Iosif Kodaxakis
    ▪ Panagiotis Voulgarellis
    ▪ Vouros Efstratios
    ▪ Thanassis Iliopoulos
    ▪ Giorgos Ioannidis
    ▪ Manolis Skounakis
  o PhD. And M.Sc. degrees awarded
- Electronic and Computer Engineering, MSc, Konstantia Zarkogianni, “Recurrent High Order Neural Networks for Identification of the EGFR Signaling Pathway”, 2005

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
  - Diploma theses completed (supervisor)
  - Diploma theses in progress (committee member)
  - Diploma theses completed (committee member)