Annual Activity Report

For the period Sep. 1, 2006 – Aug. 31, 2007

Chania, Crete, Jan. 11, 2008
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 21 (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 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.

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 in 2005. You are holding the Department's third AAR, covering the period from Sep. 1, 2006 to Aug. 31, 2007. 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.

Dionisios Pnevmatikatos
pnevmati@mhl.tuc.gr
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
Annual Activity Report

For the period: September 1, 2006 to August 31, 2007

Name: Vassilis Digalakis
Rank: Full
Years in rank: 7
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 Published

• Publications in refereed conferences
  o Published
  - Accepted

### C – Awards & Distinctions

### D – Funded Projects

- **Current projects:** (PI)
  - “Ανάπτυξη Πολυτροπικής Πλατφόρμας με ενσωματωμένες υπηρεσίες Αναγνώρισης και Σύνθεσης Φωνής για Φορητές Συσκευές”, ΠΕΝΕΔ, PI, PI’s Budget €180,000.
- **Current projects:** (Collaborator)
  - Μοντέλοποιηση, Σύνθεση Και Αναγνώριση Φωνής Με Υπολογιστική Αεροδυναμική Ανάλυση Του Ανθρωπινού Χυτικού Σωλήνα, ΠΕΝΕΔ, Co-PI, PI’s Budget €180,000.

- **Project proposals submitted:**

### E – Professional service
• Reviewer in several journals.
• ICASSP 2007 Reviewer Committee
• Conference Organization (specify role)
  o Technical Co-Chair for IEEE MMSP 2007 workshop

F – Service to the Department and the School

• Departmental responsibilities
  o Deputy Department Chair
  o Director, Information and Computer Networks Lab

• School-level responsibilities
  o Director, Telecommunication Systems Institute

G – Advising

• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ Costas Charizakis, PhD, 2003
    ▪ Chris Vosnidis, PhD, 2004
    ▪ Dimitris Oikonomidis, 2003
    ▪ Orfeas Tsergoulas, MSc, 2007
    ▪ Kostas Athanasoglou, MSc, 2007

• Undergraduate students supervised
  o Diploma theses completed
    ▪ K. Athanasoglou
    ▪ Z. Malafouris
    ▪ O. Tsergoulas
    ▪ T. Zervopoulos
Annual Activity Report

For the period: Sept 1, 2006 to Sept 1, 2007

Name: Michalis Zervakis
Rank: Professor
Years in rank: 8
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

- Graduate courses taught
  - Pattern Recognition

- Labs taught
  - Digital Signal Processing
  - Digital Image Processing

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

B – Publications

Conference Papers


Dimou, B. Van Calster, S. Van Huffel, D. Timmerman, M.E. Zervakis, “Comparison Of Imputation Approaches In Ovarian Tumour Diagnostic Models Based On LS-SVMs” accepted in 29th IEEE EMBS Annual International Conference, August 23-26, 2007, Lyon, France


**Journal Papers**

P. Kapsalas, M.Zervakis, P.Maravelaki-Kalaitzaki, “Evaluation of Image Segmentation Approaches for Non-Destructive Detection and Quantification of


Book Chapters


Submitted Journal Papers- Under Review


• Patents: none

C – Awards & Distinctions

D – Funded Projects

  o 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, Period: 2004-2008
  o Getting Cretan Businesses On-Line and Doing E-Business (eKONES), Principal investigator for TUC Funding Agency: Ministry of Development, General Secretariat for Research and Technology. TUC budget 30.000 Euro, Period: 2006-2008
  o Meta-Genomic Methods and Technologies for Diagnosis and Therapy Selection: Analysis of Genotype and Molecular Markers (GONOTYPOS) Principal investigator for TUC Funding Agency: Ministry of Development, General Secretariat for Research and Technology. Total budget 871.000 euros, TUC budget 100.000 Euro, Period: 2006-2008
  o 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, Period: 2006-2008
  o District Technology Platform for Wideband Health Services Principal investigator for TUC Funding Agency: District of Crete under the Programme “Poles of Innovation”, Period: 2006-2008
  o 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, PI’s budget 46,538 Euro, Period: 2005-2007

• Project proposals submitted:
  o During the 1st Call of Health submitted one STREP as project coordinator and participated in one other IP as a coordinating technical partner
  o During the 1st Call of ICT participated in two STREPs and one IP
During the 2nd Call of Health participated in one STREP (VIVIANA) and one IP (TECDEM).
During the 2nd Call of ICT submitted one STREP as project coordinator (CANVAS) and participated in one other STREP as a coordinating technical partner (BRAINAGING). Also participated in two IPs (HERAKLES and SENSES).

E – Professional service

- Society Technical Committee duties
  - Session Chair CIMED-07

- Conference Technical Program Committee service
  - Technical Committee Member: IEEE EMBC 2006 (Engineering in Medicine and Biology Conference).
  - Programme Committee Member: CIMED-07 (European Symposium on Artificial Neural Networks).

- Reviewing activities:

- Other
  - External reviewer for one PhD thesis from TUT, Finland (supervisor: Prof. Alpo Varrie)
  - External reviewer for one PhD thesis from UNIPI, Italy (supervisor: Prof. Antonina Starita)

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
  - Vaggelis Sakkalis, PhD
• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ Zacharias Getsis MASc student - Graduated
    ▪ Ioannis Dimou PhD student
    ▪ Michalis Kounelakis, PhD student
    ▪ Michalis Blazantonakis PhD student
    ▪ Stefanos Goumas PhD student
    ▪ George Manikis MASc student
    ▪ Antonis Tsichlas MASc student
    ▪ Kostantina Moirogiorgou MASc student
    ▪ Nikolas Markopoulos MASc student
    ▪ George Livanos MASc student
    ▪ Kostas Michalopoulos MASc student
  o PhD. And M.Sc. degrees awarded

• Undergraduate students supervised
  o Diploma theses in progress (supervisor)
    ▪ > 10
  o Diploma theses completed (supervisor):
    ▪ 5
Annual Activity Report

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

Name: George Karystinos
Rank: Assistant Professor
Years in rank: 1
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught
  - TEL 201 – Signals and Systems (Fall 2006)
  - TEL 412 – Information Theory and Coding (Spring 2007)

- Graduate courses taught
  - TEL 601 – Probability and Random Processes (Fall 2006)

- Labs taught
  - TEL 201 – Signals and Systems Lab (Fall 2006)
  - TEL 412 – Information Theory and Coding Lab (Spring 2007)

- Curriculum & course development
  - New courses / labs developed
    - TEL 412 – Information Theory and Coding (Spring 2007)
    - TEL 601 – Probability and Random Processes (Fall 2006)
  - Lecture notes / slides developed
    - TEL 201 – Signals and Systems (Fall 2006)
    - TEL 412 – Information Theory and Coding (Spring 2007)
    - TEL 601 – Probability and Random Processes (Fall 2006)
  - Authored textbooks

B – Publications
• Publications in refereed journals
  o Submitted
  o Accepted
  o Published

• Publications in refereed conferences
  o Submitted: those accepted or published (see below)
  o Accepted: those published (see below), plus
  o Published

• 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
  - TPC member for IEEE GLOBECOM 2007, Communication Theory Symposium.

- Conference Organization (specify role)

- Reviewing activities
  - Reviewer for journals
    - IEEE Trans. on Information Theory
    - IEEE Trans. on Wireless Communications
    - IEEE Trans. on Signal Processing
    - IEEE Communications Letters
    - IEEE Signal Processing Letters
    - Wireless Communications and Mobile Computing
  - Reviewer for conferences
    - IEEE GLOBECOM 2007 - Global Communications Conference
    - IEEE ICC 2007 - International Conference on Communications
    - IEEE VTC 2007 (Fall) – Vehicular Technology Conference
    - IEEE WCNC 2007 – Wireless Communications and Networking Conference

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

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

**G – Advising**

• Active graduate students supervised

• Undergraduate students supervised
  o Diploma theses in progress (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: 3+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 2006)
  - TEL 311 – Telecommunication Systems II (Spring 2007)

- Graduate courses taught
  - TEL 609 – Special Topics in Telecommunication Systems (Network Information Theory) (Fall 2006)

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

- 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: 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:
- 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 2007
• Conference Organization (specify role)

• Reviewing activities

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

• Departmental responsibilities

• School-level responsibilities
  o Member, Library Committee

**G – Advising**

• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ Despoina Tsipouridou (PhD), Year of initial enrollment in PhD program: 2006.
    ▪ Efthimios Ambatzis (MsC), Year of initial enrollment in MSc program: 2004
  o PhD. And M.Sc. degrees awarded
    ▪ Apollon Maniadakis (MSc), Year of initial enrollment in MSc program: 2004

• Undergraduate students supervised
  o Diploma theses in progress (supervisor)
    ▪ Ioannis Lazaridis and Sotiris Vlahodimitropoulos, “Software implementation of a digital receiver for single carrier telecommunication systems.”
  o Diploma theses completed (supervisor)
Annual Activity Report

For the period: September 1, 2006 to August 31, 2007

Name: Michael Paterakis
Rank: Professor
Years in rank: 8
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
  - Published
    - A. Satsiou and M. Paterakis, “Frequency-Based Cache


- Publications in refereed conferences
  - Submitted
  - Accepted
  - Published

- A. Satsiou and M. Paterakis, "Efficient Caching of Video Content to an Architecture of Proxies according to a Frequency-Based Cache Management Policy", in Proc. of the 2nd Intl. Workshop on Advanced Architectures and Algorithms for Internet Delivery and Applications, Pisa, Italy, October 2006.

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
  - June 1997 -. Director of the Graduate Program, ECE Department, Technical University of Crete.

- School-level responsibilities
  - Member of the Executive 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

- M.Sc. students supervised
  - Sotiris Bouros.
  - Aggelos Lazaris, co-supervision with Assistant Prof. P. Koutsakis.
  - Moisis Vafiadis, co-supervision with Assistant Prof. P. Koutsakis.

- Undergraduate students supervised
Annual Activity Report

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

Name: Alexandros Potamianos
Rank: Associate Professor
Years in rank: 4+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
B – Publications

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

- Publications in refereed conferences
  - Submitted/Accepted/Published
    - M. Perakakis and A. Potamianos, "The effect of input mode on inactivity and interaction times of multimodal systems," in *ACM Internat. Conf. on Multimodal Interfaces*, (Nagoya, Japan), Nov. 2007.

Books and edited book chapters
Patents

C – Awards & Distinctions

D – Funded Projects

• Current projects (Principal Investigator):

• Current projects (collaborator):
  o PENED: Multimodal platforms for mobile devices, GRST, PI: V. Digalakis
  o ASPI: Acoustics to phone inversion using audio-visual cues, IST-FP6 FET project, sub-contractor for NTUA.

• Project proposals submitted:
  o C5, "Content Creation for Children in Online Communities", EU-IST FP7
  o MIRAILE, "Augmenter Reality Interfaces for the Elderly", EU-IST FP7

E – Professional service

• Conference Reviewer Committee
  o ICASSP 2007
• Conference Organization (specify role)
General Co-Chair for IEEE MMSP 2007 workshop
Technical Co-Chair for ACM ICMI 2007 conferences
Special Session organizer and Session chair for Interspeech 2007

Reviewing activities

F – Service to the Department and the School

School-level responsibilities
Alternate representative of Dept. of ECE to ELKE
Alternate representative of Dept. of ECE to Univ. Assembly

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-
Michalis Toutoudakis (M. Sc.) 2002-
Michail Maragkakis (M.Sc.) 2003-
Ioannis Klasinas, (M. Sc.) 2005-
Thanasis Tegos, (M. Sc.) (in collaboration with Demokritos Research Center), 2005-
Theofanis Kanetis (M.Sc.), 2006-

PhD. And M.Sc. degrees awarded
Ilias Iosif (M.Sc. degree awarded), 2007.

Undergraduate students supervised
Diploma theses in progress (supervisor)
Vasso Farantouri
Spyros Dimopoulos
Nikos Malandrakis

Diploma theses completed (supervisor)
Fotis Garitos
Giannis Milogianakis
Theofanis Kanetis
Zafiris Malafouris
Annual Activity Report

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

Name: Nikos Sidiropoulos
Rank: Professor
Years in rank: 5+1/2
Full-time or part-time: Full-time
Division: Telecommunications
Lab affiliation: Telecommunications Laboratory

A – Teaching

- Undergraduate courses taught
  o TEL 301 – Telecommunication Systems I (Fall 2006)

- Graduate courses taught
  o TEL 603 – Estimation and Detection (Spring 2007)

- Labs taught
  o TEL 301 – Telecommunication Systems I Lab (Fall 2006)

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

B – Publications

- Publications in refereed journals
  o Submitted
    - E. Tsakonas, N.D. Sidiropoulos, A. Swami, `Optimal Particle Filters for Tracking Time-Varying Harmonic and Second-Order


**Accepted**


**Published**

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

Books and edited book chapters
Patents
C – Awards & Distinctions

D – Funded Projects

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

- Project proposals submitted:
  - Participated in FP7 ICT STREP proposal QWEST, led by Huawei, Inc. (ranked in the top-50, passed evaluation thresholds, not funded)
  - Participated in FP7 ICT STREP proposal N-CRAVE (ranked in top-10) through CERTH. PI: L. Tassiulas; N. Sidiropoulos is co-PI.

E – Professional service

- Associate Editor duties
  - Associate Editor, IEEE Transactions on Signal Processing (term ended Dec. 2006)

- Society Technical Committee duties
Conference Technical Program Committee service
  o IEEE ICASSP 2007
  o IEEE SPAWC 2007
  o Several other smaller workshops

Conference Organization (specify role)
  o Technical Program Committee co-Chair (with B. Sadler, ARL) for IEEE SAM 2008 Workshop, July 21-23, Darmstadt, Germany: SAM2008

Reviewing activities
  o Regular reviewer for IEEE Trans. on Signal Processing, IEEE Trans. on Information Theory

F – Service to the Department and the School

Departmental responsibilities
  o Chair, Department of Electronic and Computer engineering, Technical University of Crete.
  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
    ▪ Alexandros Valyrakis (M.Sc.). Year of initial enrollment in program: 2004.
  o PhD. And M.Sc. degrees awarded
    ▪ Evaggelia Matskani (M.Sc.). Year of initial enrollment in program: 2005.

Undergraduate students supervised
  o Diploma theses in progress (supervisor)
- 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”.
- Ioannis Mitliagas, “Joint Admission and Power Control in Wireless Networks”.
  - Diploma theses completed (supervisor)
    - Dimitrios Evaggelinakis, “Hybrid semidefinite programming – sphere decoding approaches to MIMO detection”.
Computer Engineering Division

Faculty members:

- 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: Sep. 1, 2006 to Aug. 31, 2007

Name: Michail G. Lagoudakis
Rank: Assistant Professor
Years in rank: 2
Full-time or part-time: Full-time
Division: Computer Science / Informatics
Lab affiliation: Intelligent Systems Laboratory

A – Teaching

- Undergraduate courses taught
  - COMP 401 – Theory of Computation (Fall 2006)
  - COMP 405 – Artificial Intelligence (Fall 2006)
  - AIS 413 – Autonomous Agents (Spring 2007)
- Graduate courses taught
  - AIS 613 – Autonomous Agents (Spring 2007)
  - COMP 501 – Capita Selecta in Algorithms and Complexity (Spring 2007) co-taught with Vasilis Samoladas
- Labs taught
  - AIS 413 – Autonomous Agents Lab (Spring 2007)
- Curriculum & course development
  - New courses / labs developed
    1. Autonomous agents course and lab (AIBO robots)
    2. Capita Selecta in Algorithms and Complexity
  - Lecture notes / slides developed
    1. Lecture slides for Theory of Computation
    2. Lecture slides for Artificial Intelligence
    3. Lecture slides for Autonomous Agents
    4. Notes for Capita Selecta in Algorithms and Complexity
B – Publications

- Publications in refereed journals
  - Accepted
    - Adrienne Chu, Hongshik Ahn, Bhawna Halwan, Bruce Kalmin, Everson LA Artifon, Alan Barkun, Michail G. Lagoudakis, and Atul Kumar, “A decision support system to facilitate management of patients with acute gastrointestinal bleeding”, accepted to the *International Journal of Artificial Intelligence in Medicine (AIIM)*.

- Publications in refereed conferences
  - Accepted
  - Published

C – Awards & Distinctions

D – Funded Projects

- Projects in progress

- Project proposals submitted
  - Proposal to the European Research Council (ERC)
  - Proposal to the TUC Research Office, Call for basic research grants

E – Professional service
• Conference Technical Program Committee service
  o *IEEE International Symposium on Approximate Dynamic Programming and Reinforcement Learning* (ADPRL 2007)
  o *International Conference on Autonomic and Trusted Computing* (ATC-07)
  o 23rd *Conference on Uncertainty in Artificial Intelligence* (UAI 2007)
  o 18th *European Conference on Machine Learning* (ECML 2007)
  o *IEEE International Conference on Tools with Artificial Intelligence* (ICTAI-07)
  o 1st *CP Workshop on Autonomous Search* 2007

• Conference Organization (specify role)
  o *Session Chair, IEEE/RSJ International Conference on Intelligent Robots and Systems* (IROS 2006), Beijing, China, October 2006

• Reviewing activities
  o *Journal of Field Robotics* (JFR)
  o *IEEE Transactions on Automation Science and Engineering* (TASE)
  o *International Journal on Artificial Intelligence Tools* (IJAIT)
  o *Journal of Artificial Intelligence Research* (JAIR)
  o Automatica
  o *IEEE Transactions on Systems, Man, and Cybernetics - Part B: Cybernetics*
  o *International Conference on Autonomic and Trusted Computing* (ATC-07)
  o 23rd *Conference on Uncertainty in Artificial Intelligence* (UAI 2007)
  o 18th *European Conference on Machine Learning* (ECML 2007)
  o *IEEE International Conference on Tools with Artificial Intelligence* (ICTAI-07)
  o *European Control Conference* (ECC-07)
  o 22nd *AAAI Conference on Artificial Intelligence* (AAAI-07)
  o 3rd *IEEE Conference on Automation Science and Engineering* (CASE-07)
  o 1st *CP Workshop on Autonomous Search* 2007

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

• Departmental responsibilities
  o Web mastering and maintenance of www.ece.tuc.gr
  o Faculty search visit coordinator (Computer Science Division)

• School-level responsibilities
  o Editorial Board of the “TUC News” publication

**G – Advising**

• Graduate students
  o Ph.D. and M.Sc. theses in progress (supervisor)
  - Ph.D and M.Sc. theses completed (committee member)
  - Ph.D and M.Sc. theses in progress (committee member)
    - Alejandro Mosteo (Ph.D. program), University of Zaragoza, Spain Visiting student April 2007 – July 2007

- Undergraduate students
  - Ph.D theses in progress (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, “Active Face Tracking with an AIBO”
    - Stylianos Tsigdinos, “Improving Traffic Light Control using Reinforcement Learning”
    - Suzanna Volioti, “Histogram-Based Landmark Recognition in the Four-Legged RoboCup League”
    - Nikolaos Hartampas, “Heuristic Search Techniques for a Combinatorial Scheduling Problem”
    - Konstantinos Haldezos, “Interactive Robot Gaming”
    - Iasonas Pazis, “Microprocessor Control of a Hexapod Robot”
    - Nikolaos Papoulias, “High-Level Debuggers, Facilities, and Interfaces”
    - Lefteris Tsalas, “GeoRSS Firefox Plugin”
    - Aliki Mpandi, “Avatar-Based Visualization of Sign Language”
    - Nikolaos Alexandris, “Reinforcement Learning for Network Routing”
  - Diploma theses completed (supervisor)
  - Diploma theses completed (committee member)

- Student team projects
  - Founder and leader of the four-legged robot soccer team Kouretes (www.intelligence.tuc.gr/kouretes), the first and the only Greek team participating in the RoboCup competition. Kouretes 2007 consisted of 7 graduate and undergraduate ECE students.
Annual Activity Report

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

Name: Katerina Mania
Rank: Assistant Professor
Years in rank: 1 year, 9 months
Full-time or part-time: Full-time
Division: Computer Science
Lab affiliation: Distributed Multimedia Information Systems and Applications (MUSIC)

A – Teaching

• Undergraduate courses taught
  o PLH 503 - Computer Graphics (Spring 2007)
  o PLH 101 – Introduction to Computers and Computer Science (C programming)

• Graduate courses taught
  o PLH 610 – Computer Graphics (Spring 2007)

• Curriculum & course development
  o New course notes/labs developed: PLH 503, PLH 610, Computer Graphics, undergraduate and graduate level, lab exercises and major project spec. (new, 2007).
  o Lecture notes/slides updated: PLH 101 (C programming).

B – Publications

• Publications in refereed journals
  o Submitted


- Published

- 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 ERC PERLA, I-LIFE, Marie Curie ARCHUN3D.

E – Professional service

- Associate Editor duties

- 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 2007, sponsored by Eurographics, Canada, June 2007
  - Member of the program committee of Symposium on Applied Perception in Graphics and Visualisation (APGV) 2007 sponsored by ACM Siggraph, Germany, July 2007
  - Member of the program committee of Artificial Reality & Telexistence 2007, sponsored by IEEE, Denmark, November 2007
  - 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 2007, Portugal, July 2007
  - Member of the program committee of INTUITION 2007 Workshop & Conference on Virtual Reality and Virtual Environments, Athens, Sept. 2007
  - Member of the program committee of the VAST 2007 Workshop: Virtual Museums-Cultural Heritage, Education, Entertainment supported by INTUITION and EPOCH Networks of Excellence.
  - Member of the program committee of ACM Symposium on Virtual Reality Software and Technology (VRST) 2006, Nov. 2006, Cyprus.
  - Member of the program committee of 12th International conference on Virtual Systems and Multimedia (VSMM) 2006, Oct. 2006, China
• Conference Organization (specify role)
  o Co-chair of short papers program: Eurographics 2008, 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 Graduate Studies committee since September 2007

• School-level responsibilities
  - Substitute member of the Graduate Studies committee of the Technical University of Crete since September 2007

G – Advising

• Active graduate students supervised
  o Ph.D. students supervised (at the University of Sussex)
    ▪ Maria Sifniotis (Ph.D): Year of initial enrollment in Ph.D program: 2003.
  o Post-doc researcher (at the University of Sussex)
  o Graduate students (at the Technical University of Crete)
- Aleksandros Zotos (M.Sc., subject to acceptance of his application)

- Undergraduate students supervised (in progress)
  - Spiros Mpolierakis (Implementation of a 3D multi-level game)
  - 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)
  - Giannis Charcharos (Implementation of a 3D on-line shopping experience linked with dynamic database technologies)
  - Kostas Pappas (Implementation of a networked 3D maze game for two users)
Annual Activity Report

For the period: Sep. 1, 2005 to Aug. 31, 2006

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
  - Multimedia Data Management (Fall 2006)
  - Data Structures and Algorithms (Autumn 2007)

- Graduate courses taught
  - Multimedia Data Management (Fall 2006)

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

- Curriculum & course development
  - Lecture notes & slides developed

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)
- Published


- Books and edited book chapters

- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
  - 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.
  - 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: 320,000 euros


- **HERAKLETOS** program for basic doctoral research (2004-2006), Funding Agency: General Secretariat for Research and Technology (PhD,Candidate, Budget: 33,400 euros (PhD Candidate: Mrs Paraskevi Raftopoulou, PI: Euripides Petrakis).

### Project proposals submitted:
- In addition to the above, several 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 “10th International Conference on Business Information Systems BIS, Poznan, Poland 25-27 April 2007 [http://bis.kie.ae.poznan.pl/10th_bis](http://bis.kie.ae.poznan.pl/10th_bis)
  - Program committee member and Publications Chair of
- Program committee member of “2nd International Symposium on Visual Computing (ISVC06)” Nov. 6-8, 2006 Lake Tahoe, Nevada, USA http://www.isvc.net/
- Program committee member of “International Conference on Image Analysis and Recognition” (ICIAR 2006) September 18-20, 2006 Póvoa de Varzim, Portugal http://www.iciar.uwaterloo.ca/iciar06

- 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.Doct (PhDUniv. of Manchester, UK), Natural Language Processing, Text processing, Information Extraction.
    - Paraskevi Raftopoulou, P2P systems.
    - Rena Peraki, Consumer Health Information Systems (expected Dec. 2007)
    - Sotiris Batsakis, learning (focused) WebCrawlers (expected Oct 2007)
- Angelos Hliaoutakis, Medical Information Systems
- Evdoxios Baratis, Time Ontologies
  - PhD. And M.Sc. degrees awarded
- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Mixalhs Argyriou, Dynamic Clustering.
    - Savvas Petrou, Time ontologies and applications in the clinical domain
    - Dimitris Siskos, Medical Ontologies
  - Diploma theses completed (supervisor)
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report

For the period: Sept 1 2006 to Aug 31 2007

Name: Vasilis Samoladas
Rank: Assistant Professor
Years in rank: 3
Full-time or part-time: Full-time
Division: Informatics
Lab affiliation: Software technology and network applications (softlab)

A – Teaching

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

- Graduate courses taught
  - ΠΛΗ-602 Αρχές κατανεμημένων συστημάτων λογισμικού
  - ΠΛΗ-616 Ειδικά θέματα Αλγορίθμων και Πολυπλοκότητας (συνδιδ. με τον κ. Λαγουδάκη)

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

- Curriculum & course development
  - New courses / labs developed
    - ΠΛΗ-616 Ειδικά θέματα Αλγορίθμων και Πολυπλοκότητας (συνδιδ. με τον κ. Λαγουδάκη)
  - Lecture notes / slides developed
    - Σημειώσεις για το ΠΛΗ-302: Αλγόριθμοι και πολυπλοκότητα
  - Authored textbooks
**B – Publications**

- **Publications in refereed journals**
  - Submitted
  - Accepted

- **Publications in refereed conferences**
  - Submitted
  - Accepted
C – Awards & Distinctions

D – Funded Projects

- Current projects:
- Project proposals submitted:

E – Professional service

- Conference Technical Program Committee service
  - VLDB (Very Large Databases) 2007
  - ISWC (International Semantic Web Conference) 2007
  - HDMS (Hellenic Data Management Symposium) 2007

F – Service to the Department and the School

- Departmental responsibilities

- School-level responsibilities
  - Other
    - Ιδρυματικός εκπρόσωπος: Μ/Κ Εταιρεία ΕΛ/ΛΑΚ (Ελεύθερου Λογισμικού/Λογισμικού Ανοιχτού Κώδικα) (υπό τον ΕΔΕΤ).

G – Advising

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - George Hatzisymeon (PhD), 3st year
    - Stergios Charalambakis (MSc), 2st year
    - Yiannis Botsis (MSc), 2st year
    - Σπύρος Μπλάνας (Msc), 1st year
  - PhD. And M.Sc. degrees awarded

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Κώστας Κατάκης
- Mihalis Argyriou
- Giorgos Tsatsanifos
  - Diploma theses completed (supervisor)
    - Giorgos Hlias
    - Christos Tsiamantaz
    - Panagiotis Drakotas
  - Diploma theses in progress (committee member)
  - Diploma theses completed (committee member)
Annual Activity Report

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

Name: Stavros Christodoulakis
Rank: Professor
Years in rank: 18
Full-time or part-time: Full-time
Division: Informatics
Lab affiliation: MUSC 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

B – Publications

- Publications in refereed journals
  - Accepted (in addition to Published)
    - C. Tsinaraki, S.Christodoulakis, "An MPEG-7 Query Language and a User Preference Model that allow Semantic Retrieval and Filtering of Multimedia Content", ACM-Springer Multimedia Systems Journal, in
Special Issue on Semantic Multimedia Adaptation and Personalization, Sept 2007

- Published
  - C. Tsinaraki, P. Polydoros, S. Christodoulakis, "Interoperability support between MPEG-7/2 and OWL in DS-MIRF", In IEEE Transactions on Knowledge and Data Engineering (IEEE-TKDE), Special Issue on the Semantic Web Era, Feb 2007

- Publications in refereed conferences
  - Accepted (in addition to 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


- Published


- **Books and edited book chapters**

  To Appear:


- **Patents**

- **C – Awards & Distinctions**
D – Funded Projects

- Current projects:
  - 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).
  - EPEAEK Equipment Grant (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
  - Associate Director and Member of the Board, Telecommunication Systems Institute, Technical University of Crete.

G – Advising
Active graduate students supervised

- Ph.D. and M.Sc. students supervised
  - Chrisa Tsinaraki (PhD)
  - Giorgos Kotopoulos (MSc)
  - Yannis Kotopoulos (MSc)
  - Xenia Arapi (MSc)
  - Michalis Foukarakis (MSc)

- PhD. And M.Sc. degrees awarded
  - Anastasia Karanastasi (MSc)
  - Panagiotis Polydoros (MSc)

Undergraduate students supervised

- Diploma theses in progress (supervisor)
  - Mylonakis
  - Papachristoudis
  - Theodorakis
  - Christoulakis
  - Stylianakis
  - Ntousias
  - Zotos
  - Sytzanaki
  - Panteli

- Diploma theses completed (supervisor)
  - Kromidas
  - Alatzidis
Electronics and Computer Architecture Division

Faculty members:

- Apostolos Dollas, Professor
- Costantinos Balas, Associate Professor
- Mathias Bucher, Assistant Professor
- Kostas Kalaitzakis, Professor
- Ioannis Papaefstathiou, Visiting Associate Professor
- Dionisis Pnevmatikatos, Associate Professor
- Georgios Stavrakakis, Professor
Annual Activity Report

For the period: September 1, 2006 to August 31, 2007

Name: Apostolos Dollas
Rank: Professor
Years in rank: 6
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 401 – Embedded Microprocessor Systems
  - HRY 501 – VLSI and ASIC Design
  - HRY 312 - Computer Organization

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

- Labs taught
  - Supervision of labs and projects (including the development of all individual project specifications) of HRY 401 and HRY 501
  - Supervision of the labs of HRY 312

- Curriculum & course development
  - 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.
B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted
  - Published

- Publications in refereed conferences
  - Accepted
  - Published (all papers fully refereed)
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.

E – Professional service

- Conference Technical Program Committee service
  - Program Committee Member 15th IEEE Symposium on Field Programmable Custom Computing Machines (FCCM), Napa Valley, USA, April, 2007.
  - Program Committee Member 18th IEEE International Workshop on Rapid System Prototyping (RSP), Porto Allegre, Brazil, June 2007.
  - Technical Program Committee, 20th SBCCI 2007 (SYMPOSIUM ON INTEGRATED CIRCUITS AND SYSTEMS DESIGN), Rio de Janeiro, Brazil, Sep. 3-6, 2007.
o Program Committee Member, 5th IEEE International Conference on Field-Programmable Technology (FPT 2007), Kitakyushu, Japan, Dec. 10-12, 2007.

o Program Committee Member, Workshop on Application-Specific Processors (WASP 2007), Salzburg, Austria, Oct. 4-5, 2007.

o Invited as Program Committee Member of several 2008 conferences, including FCCM, FPL, FPT, WASP.

- PhD Committee member of Maria Kozyri, University of Thessaly (defended July, 2007)
- PhD Committee member of Christoforos Kachris, University of Delft, Netherlands (to defend December, 2007)
- Faculty election committee member at the University of Ioannina, the University of Thessaly, and the University of Peloponese.
- Participation in 3-member recommendation committees for faculty elections at the University of Thessaly, University of Peloponese (two committees).

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.

- 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

F – Service to the Department and the School

- Departmental responsibilities
  o Director, Microprocessor and Hardware Laboratory
  o Member, Undergraduate Studies Committee
  o Member, Graduate Studies Committee
  o Member of faculty recommendation committees in two faculty elections.
  o Faculty advisor to the 9th Semester students

- Responsibility for Department-wide projects (e.g., ΕΠΕΑΕΚ, practical training, …)
  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).

- School-level responsibilities
  - Faculty advisor, TUC Students’ Radio Station group

**G – Advising**

- Active graduate students supervised
  - Ph.D. and M.Sc. students supervised
    - Papademetriou, Kyprianos (PhD)
    - Sotiriades, Euripides (PhD)
    - Chrysos, Grigorios (PhD)
    - Dionissios Efstathiou (PhD)
  - PhD. And M.Sc. degrees awarded (committee member)
    - Ermis, Ioannis (MS)
    - Dimopoulos, Vasileios (MS)

- PhD and M.Sc. Degrees (committee member)
  - Mavroidis, Ioannis (PhD)
  - Mavroidis, Iakovos (PhD)
  - Kornaros, G (PhD)
  - Meidanis, D. (PhD)
  - G. Dimitrios (MS)
  - Nikitakis, A. (MS)

- Undergraduate students supervised
  - Diploma theses in progress
    - Zampetakis, Michael
    - Kouinis, Konstantinos (inactive)
  - Diploma theses completed (supervisor)
    - Anyfantis, Antonios

  - Diploma theses in progress (committee member)
    - Sartzetakis, I.
    - Klatsias, K.
    - Papadopoulos, K.
    - Mplemenos, G.

  - Diploma theses completed (committee member)
    - Christou, Panagiotis
    - Kyriakoulakos, Konstantinos
    - Lasithiotakis, Antonis
- Platsis, Michael
  Siskos, George-Alexander
Annual Activity Report

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

Name: Costas Balas
Rank: Associate Professor
Years in rank: 5.5 yrs
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture Division
Lab affiliation: Electronics Laboratory

A – Teaching

- Undergraduate courses taught
  - Electronics I
  - Optoelectronics

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

- Labs taught
  - Electronics I
  - Optoelectronics

- Curriculum & course development
  - New courses / labs developed
    1. Optoelectronics course
    2. Optoelectronics Lab
  - Lecture notes / slides developed
    - Electronics I: 150 pages notes, 250 slides
    - Optoelectronics: 350 slides
  - Authored textbooks
B – Publications

- Publications in refereed journals
  - Submitted
  - Published

- Publications in refereed conferences
  - Submitted
  - Published

- Books and edited book chapters

C – Awards & Distinctions

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)

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

• 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

G – Advising
Active Graduate Students Supervised

Ph.D. Students Supervised

• Tsapras Thanasis

M Sc. Students Supervised

• Terzakis Manos
• Papoutsoglou George
• Georgiou Nikolaos

M Sc Degrees Awarded

Undergraduate Students Supervised

Diploma Thesis Supervised

• Sgouros Antonis
Diploma Thesis Completed (supervisor)

- Adams Thanasis
- Georgiou Nikolaos
- Tsolaki Euaggelia

Diploma Thesis Completed (committee member)

- Chatzimarkakis Emanuel
- Makris Nikolaos
- Sounapoglou Thomas
- Margariti Vanessa-Vaia
- Vassoulos Gerasimos
Technical University of Crete
Department of Electronic & Computer Engineering

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

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

A – Teaching

- Undergraduate courses taught
  - ECE 111 – Digital Design (Spring 2007)
  - ECE 506 – Design of CMOS Analog Integrated Circuits & Physics of MOSFETs (Fall 2006)

- Graduate courses taught
  - ECE 604 – Special Themes of Analog IC Design (Fall 2006)

- Labs taught
  - ECE 111 – Digital Design Lab (Spring 2007)

B – Publications

- Publications in refereed journals
  - Submitted: those accepted (see below), plus
o Accepted


• Publications in refereed conferences

  o Submitted-Accepted:

  o Submitted-Accepted-Published:


  o Published


• International Workshop Presentations:


**C – Awards & Distinctions**

**D – Funded Projects**

- **Current projects:**
  - “Investigation of Nonlinearities in RF-CMOS”, Basic Research Project, ECE Dept./Special Fund for Research, TUC, 2006, Budget: 2.5K €.

- **Project proposals submitted:**
  - the three topmost Current projects (above), plus:
- “MOS varactor model for RF integrated circuit design”, Basic research proposal, Special Fund for Research, TUC, 2007 (not funded).

- Development of Laboratory Infrastructure:
  - Automation equipment for semi-automatic probe station: Prober Control Software, I/O cards, Microcontrollers etc., 1 PC workstation, Programmable Power supply, Budget 10 K € (AKMON).
  - Software VEE Pro, IC-CAP, ADS, Budget 5 K € (Electronics Labs & AKMON).
  - Upgrade (from software only) to Full membership of Europractice services: TUC/ECE Dept. gains full access to Europractice Design kits and Foundry services.

E – Professional service

- Reviewing activities
  - Regular reviewer for:
    - IEEE Trans. on Electron Devices
    - IEEE Trans. on CAD of Int. Circuits and Systems
    - Solid-State Electronics
    - Int. J. on Low-Power Electronics

F – Service to the Department and the School

- Departmental responsibilities
  - Deputy Member of the Committees for Undergraduate and Graduate Studies.

G – Advising

- Active graduate students supervised
  - Ph.D. students co-supervised (member of the advisory committee):
  - M.Sc. students supervised
    - Nikos Makris (M.Sc.), Enrollment: 2006.
    - Nikos Mavredakis (M.Sc.), Enrollment: 2006.
    - George Rozakis (M.Sc.), Enrollment: 2005.
  - M.Sc. degrees awarded
    - George Konstantopoulos (M.Sc.). Enrollment: 2005.

- Undergraduate students supervised
  - Diploma theses in progress (supervisor)
    - Dimitris Diamantakos, EKV3 MOSFET Model Validation and Parameter Extraction from 1um to 90nm CMOS.
    - Michael Karefylakis, Modelling of High-Voltage MOSFETs.
    - Dionysios Stefanakis, Design of a CMOS image sensor.
    - Alexandros Kyriakos, Development of a Java and Matlab based CAD tool for the EKV3 MOSFET model.
    - Kyriakos Lathourakis, Study of Matching in 0.35um CMOS.
    - George Smarakgos, Design of a Current-Mode OPAMP.
    - Alexandros Petsios, Design of a CMOS charge-sensitive amplifier
    - Apostolos Tsivitis, Study of 1/f noise in MOS transistors.
  - Diploma theses completed (committee member)
    - Emmanuel Doumas (6/2007)
    - Dimitrios Papadopoulos (2/2007)
    - Nikos Makris (10/2006)
Annual Activity Report

For the period: September, 1, 2006 to August, 31, 2007

Name: Kostas Kalaitzakis
Rank: Professor
Years in rank: 5
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 – Analysis of Electric Circuits (4th semester)

- Graduate courses taught
  - HRY 602 – Special topics on Electronics Measurements and Sensors

- Labs taught
  - Electronic 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

- Other

D – Funded Projects

- Current projects:
- Project proposals submitted:

E – Professional service

- 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

F – Service to the Department and the School

- Departmental responsibilities
  - Lab Director, Electric Circuits & Renewable Energy Sources Lab.
- School-level responsibilities

G – Advising
• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    • K. Papadakis (M.Sc.). Year of initial enrollment in M.Sc. program: 2004.
    • V. Tzitzilonis (M.Sc.). Year of initial enrollment in M.Sc. program: 2005.
    • 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.
  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)
    • N. Loykas, “Development of a Microcontroller-Based System for Photovoltaic Maximum Power Point Tracking Under Partial Shadowing Conditions”.
    • N. Tsitsopoulos, “DC/AC Inverter Harmonics Minimization Using Genetic algorithms”.
    • A. Chatziioannou, “Optimal Design of Hybrid PV and WG System Supplying a Desalination Process”.
    • E. Doumas, “Calibration of Oceanographic Instruments and Development of Software Application for Their Management”.
    • P. Lamprou, “Development of an Autonomous Data Acquisition System Based on Microprocessor Interconnected to the Internet”
Annual Activity Report

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

Name: Ioannis Papaefstathiou
Rank: Assistant Professor
Years in rank: 1/2
Full-time or part-time: Full-time
Division: Electronics and Computer Architecture
Lab affiliation: Microprocessor and Hardware laboratory

A – Teaching

• Undergraduate courses taught
  o HRY 201 – Digital Computers (Fall 2006)
  o HPY 411 – Computer Architecture (Spring 2007)

• Graduate courses taught

• Labs taught
  o HRY 201 – Digital Computers (Fall 2006)
  o HPY 411 – Computer Architecture (Spring 2007)

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

B – Publications

• Publications in refereed journals
  o Submitted
Accepted

- D. Simos, I. Papaeftathiou, M. Katevenis, “Towards Fabric-On-a-chip (FoC) : A 400Gbps 32×32 Variable-Packet-Size Buffered Crossbar (CICQ) Single-Chip Switch Core”, IEEE Design & Test (D&T), accepted for publication

Published

- Publications in refereed conferences
  - Submitted: those published/appeared (see below), plus
  - Accepted: same as published (see below) plus
    - D. Meidanis, I. Papaeftathiou, “An efficient FPGA-based implementation of Pollard's (rho-1) factorization algorith”, IEEE International Conference on Field Programmable Technology 2007 (FPT’07), December 12th - 14th, 2007, Kitakyushu, Japan

- Published
- Th. Orphanoudakis, G. Kornaros, I. Mavroidis, A. Nikologiannis, I. Papaefstathiou "An Embedded Networking SoC for purely Ethernet MANs/WANs”, IEEE Symposium on Computers and Communications (ISCC'07), July 1-4, Aveiro, Portugal

- Books and edited book chapters
- Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:

- Project proposals submitted:
  - Organizer of “NEFERTITI”, FP7-STREP proposal, grade 11/15 (ranked 14th, 10 Proposals were funded)
  - Organizer of “OSMOSIS”, FP7-STREP proposal, grade 10/15
  - Organizer of “POCAHONTAS”, FP7-CAPACITIES proposal, results awaited
  - Participated in “AWISSENET”, FP7-STREP proposal, grade 12/15 will be funded from 1/1/08 (ranked 12th, 24 Proposals were funded), TUC funding 250K €

E – Professional service

- Associate Editor duties
• Society Technical Committee duties

• Conference Technical Program Committee service
  o IEEE DATE 2007
  o IEEE FPL 2007
  o IEEE SAMOS 2007
  o Several other smaller workshops

• Conference Organization (specify role)

• Reviewing activities
  o Regular reviewer for *IEEE Communication Letters, IEEE Design & Test*

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

• Departmental responsibilities

• School-level responsibilities

**G – Advising**

• Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ Antonis Nikitakis (M.Sc.). Year of initial enrollment in program: 2004.
    ▪ Panagiotis Christou, (M.Sc.). Year of initial enrollment in program: 2006.
  o Ph.D. and M.Sc. students co-supervised

• Undergraduate students supervised
  o Diploma theses in progress (supervisor)
    ▪ K. Klatsias
    ▪ N. Kassis.
    ▪ N. Spanos
    ▪ K. Papadopoulos
    ▪ G. Mplemenos
    ▪ A. Plikaditi
- A. Kontomanou
- M. Vavouras
- M. Chalkiadaki
- K. Kassis
- K. Theoharoulis

- Diploma theses completed (supervisor)
  - M. Platsis
Technical University of Crete
Department of Electronic & Computer Engineering

Annual Activity Report


Name: Dionisis Pnevmatikatos
Rank: Associate Professor
Years in rank: 5
Full-time or part-time: Full-time
Division: Electronic & Computer Architecture
Lab affiliation: Microprocessor & Hardware Laboratory

A – Teaching

- Undergraduate courses taught
  - High-Performance Computer Architecture
  - Advanced Logic Design

- Graduate courses taught
  - Special Topics in Computer System Design

- Labs taught
  - High-Performance Computer Architecture
  - Advanced Logic Design

B – Publications

- Publications in refereed journals

• Publications in refereed conferences
  
  
  
  
  
  
  

• Books and edited book chapters.
  
  ▪ Koen De Bosschere, Wayne Luk, Xavier Martorell, Nacho Navarro, Mike O’Boyle, Dionisios Pnevmatikatos, Alex Ramirez, Pascal Sainrat, André Seznec, Per Stenström and Olivier Temam, High-Performance Embedded
C – Awards & Distinctions

D – Funded Projects

- Tele-education Action #98, P.I. for TUC
- Student Practical Training Program, Departmental P.I.

E – Professional service

- *General Co-Chair* RSP 2007
- DATE 2008, Co-Chair, Architecture & Microarchitecture Track
- DATE2007 (Program Committee)
- RSP2007 (Program Committee)
- FPL 2007 (Program Committee)
- CF 2007 (Program Committee)
- ICCD 2007 (Program Committee)
- SAMOS 2007 (Program Committee)

- Reviewer:
  - Conferences: ICS, IPDPS, ISCAS, MICRO, NTMS (International Conference on New Technologies, Mobility and Security)
- External evaluator for promotion process, University of Texas, San Antonio

F – Service to the Department and the School

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

- School-level responsibilities
  - NOC director
  - Committee for Computing Center and Networks
  - Lecture Notes Committee
G – Advising

- Active graduate students supervised
  - Ph.D.
    - Kornaros George
    - Ioannis Mavroidis
    - Iakovos Mavroidis (co-supervise)
    - Meidanis Dimitris (co-supervise)
  - M.Sc. students supervised
    - Kiriakoulakos Kostas
    - Fytraki Sotiria
    - Nikitakis Antonis (co-supervise)
  - M.Sc. degrees awarded
    - Dimopoulos Vasilis
    - Ermis Ioannis

- Undergraduate students supervised
  - Diploma theses completed (supervisor)
  - Diploma theses completed (co-supervisor)
  - Diploma theses in progress (supervisor)
    - Ανδρονικίδης Γεώργιος
  - Diploma theses in progress (committee member)
    - K. Klatsias
    - N. Kassis
    - N. Spanos
    - K. Papadopoulos
    - G. Mplemenos
    - A. Plikaditi
    - A. Kontomanou
    - M. Vavouras
    - M. Chalkiadaki
    - K. Kassis
    - K. Theoharoulis
  - Diploma theses completed (committee member)
    - Platsis Mixahl
    - Anifantis Antwnios
Annual Activity Report

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

Name: George Stavrakakis
Rank: Professor
Years in rank: 12
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 : 4
O Accepted : 3
O Published : 2 (see below)


- Publications in refereed conferences
  - Submitted : 4
  - Accepted : 4
  - Published : 4 (see below)


- 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:

E – Professional service

- Associate Editor duties: none
- Society Technical Committee duties: one (International Committee of Electrical Machines- ICEM)
- Conference Technical Program Committee service: none
- Conference Organization (specify role): none
- Reviewing activities: In three international Journals
  - 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): one
  Permanent Committee of the Prefecture of Crete for the Energy Problem of Crete

- Other

F – Service to the Department and the School

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

G – Advising

• Active graduate students supervised
  o Ph.D students supervised
    ▪ Tripolitakis Evagelos
    ▪ Nikolaou Triantafylia
    ▪ Sergaki Eleftheria
  M.Sc Students supervised
    ▪ Afentakis Nikolaos
    ▪ Kafetzis Georgios
    ▪ Patelis Petros
    ▪ Tabitsikas Charalabos
  o M.Sc. degrees awarded (none)

• Undergraduate students supervised
  o Diploma theses in progress (supervisor): 10
  o Diploma theses completed (supervisor): 5
  o Diploma theses in progress (committee member): 5
  o Diploma theses completed (committee member): 3
Systems Division

Faculty members:

- Petros Stavroulakis, Professor
- Manolis Christodoulou, Professor
Annual Activity Report

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

Name: Peter Stavroulakis
Rank: Professor
Years in rank: 17
Full-time or part-time: Full-time
Division: Systems
Lab affiliation: Automation

A – Teaching

B – Publications

- Publications in refereed journals
  - Submitted
  - Accepted
  - Published
    - “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, June 2006

- Publications in refereed conferences
  - Submitted
  - Accepted
    - Technological and Legal aspects of Communications and Information Security, to be presented at the Second International
Conference on Legal, and Privacy Issues in IT (LSPI), Beijing China Dec. 4-6 2007

- Anti-Jamming Transmitter Independent Radar Networks, to be presented at the IEEE conference on Signal Processing and Communications Networks, Madras India, Jan. 4-6/2008

- Published
  - ‘Novel Channel Assignment Scheme in Providing TETRA’, Specialized Services IEEE Global Mobile Congress, Beijing, China, 2006

- Book chapters in Books
  
- Books
• TErrestrial Trunking Radio (TETRA) – A Global Security Tool, Springer 2007

• Books Accepted:
  o A Book Proposal for a HANDBOOK ON COMMUNICATION AND INFORMATION SECURITY has been accepted by SPRINGER.

C – Awards & Distinctions

• Invited Plenary Lectures: IEEE Global Mobile Congress/2006 (Distinguished Lecturer)

D – Funded Projects

E – Professional service

• Associate Editor duties
  
  o Founding Editor for CHINA COMMUNICATION JOURNAL
  
  o Guest Editor for a special issue for the CHINA COMMUNICATIONS JOURNAL on COMMUNICATIONS AND INFORMATION SECURITY

• Society Technical Committee duties
  
  o Founding Member of the IEEE Technical Committee on communication and information Security

• Conference Technical Program Committee IEEE
  
  o Member of Technical Program Committee, IEEE GMC/2006
  
  o Member of Technical program Committee, IEEE WCNC/2006

• Conference Organization (specify role)
  
  o Symposium Chairman on Communication and Information security for CHINACOM/2007 conference sponsored by IEEE
  
  o Presented a Tutorial in IASTED International Conference on Antenna and Propagation, Montreal, Canada June/2007

• Reviewing activities
  
  o Reviewer of IEEE (4 papers)
  
  o Electronic Letters (5 papers)
- International Journal of Communication Systems (6 papers)
- Communications Journal for the old IEE now IET (3 papers)
- CHINA COMMUNICATIONS JOURNAL (20 papers)

- Other
  - Invited speeches/seminars on the general subject of Information Security, Tsinghua University (The MIT of China), Beijing China June 2006
  - Computer Emergency Response Team (CERT) WUXI, China, October 2006 (I was the only NON-CHINESE invitee)
  - IEEE Consumer Communication and Networking Conference (CCNC), January 2007

F – Service to the Department and the School

G – Advising

One of my Ph.D. graduates was recently elected as an assistant Professor at the University of LAMIA. Three of my Ph.D. graduates have been elected Assistant Professors at the TEI KRITIS
Annual Activity Report

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

Name: Manolis A. Christodoulou
Rank: Professor
Years in rank: 15
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)
  - Accepted: those published (see below)
  - Published
    - M.A. Christodoulou and A.C.Kalpakas, “Use of artificial neural networks in sequential models of membrane proteins of the SWISS-PROT database for the detection of transmembrane segments”, 15th


Books and edited book chapters

Patents

C – Awards & Distinctions

D – Funded Projects

- Current projects:
- Project proposals submitted

E – Professional service

- Mediterranean Control Association, Member of the Board of Governors
- Conference Technical Program Committee service
  - International Program Committee, Member Workshop on Networked Distributed Systems for Intelligent Sensing and Control, Kalamata, Greece June 30, 2007.
  - Chairman, Neural Networks II session FrM-3, 15th Mediterranean Conference on Control and Automation, Athens, Greece, June 27-29, 2007.
o International Program Committee, Member *14th Mediterranean Conference on Control and Automation*, Ancona, Italy, June 28-30, 2006.

- Conference Organization (specify role)

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

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

**G – Advising**

- Active graduate students supervised
  o Ph.D. and M.Sc. students supervised
    ▪ Iosif Kodaxakis
    ▪ Panagiotis Voulgarellis
    ▪ Vouros Efstratios
    ▪ Thanassis Iliopoulos

  o PhD. And M.Sc. degrees awarded

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