

# ANDREAS PRODROMOU

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## Research Interests

- Multi/Many-Core Computer Architectures
  - 3D Microprocessor Architectures
  - Microprocessor and System Design
  - Fault-Tolerant Network-on-Chip Architectures
  - Reliable and Fault-Tolerant Systems
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## Education

### **University of California, San Diego, San Diego, CA**

*Ph.D. Student* in Computer Science and Engineering

September 2013 – Present

Advisor: Dr. Dean Tullsen

GPA: 3.6/4

**Powell Fellow**

### **University of Cyprus, Nicosia, Cyprus**

*Master of Science* in Computer Engineering, June 2013

Advisor: Dr. Chrysostomos Nicopoulos

Co-Advisor: Dr. Yiannakis Sazeides

GPA: 8.57/10

### **University of Cyprus, Nicosia, Cyprus**

*Bachelor of Science* in Computer Engineering, June 2011

Advisor: Dr. Chrysostomos Nicopoulos

GPA: 7.81/10

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## Research Experience

### Graduate Student Researcher, June 2013 – Present

*Department of Computer Science and Engineering, University of Cyprus, Nicosia, Cyprus*

- Research in dynamic dead code elimination – Explored the capabilities of dead code elimination in the presence of big data workloads.
- Research in memory controller scheduling policies
  - Evaluating existing policies under new technological trends.
  - Determining the optimal metrics to be used for scheduling policies via statistical analysis and queueing networks theory.

### Special Scientist, June 2011 – June 2013

*Department of Electrical and Computer Engineering, University of Cyprus, Nicosia, Cyprus*  
Ξ Lab (<https://www2.cs.ucy.ac.cy/carch/xi/>)

- Part of Eurocloud FP7 Project (<http://www.eurocloudserver.com/>) – European research and development program for building a 3D server-on-chip concept integrating low power cores.
- Research in Network-on-Chip Reliability.
- Designed and evaluated circuit-level modules to detect hardware faults. (Published in MICRO'45 conference)

### Special Scientist, June 2010 – August 2010

*Department of Electrical and Computer Engineering, University of Cyprus, Nicosia, Cyprus*  
multiCAL (multicore Computer Architecture Laboratory) ([www.multical.ece.ucy.ac.cy](http://www.multical.ece.ucy.ac.cy))

- Implementation of a parameterized cycle-accurate Network-on-Chip simulator as part of a Full-System simulator (extensive programming and simulations)
- Later awarded as Best Senior Design Project

### Undergraduate Research Intern, June 2009 – August 2009

*Department of Electrical and Computer Engineering, University of Cyprus, Nicosia, Cyprus*  
KIOS Research Center ([www.kios.ucy.ac.cy](http://www.kios.ucy.ac.cy))

- Studied the infrastructure of a Network-on-Chip module
- Implemented and assessed (simulations) routing algorithms for such networks

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## Skills

### Operating Systems

Extensive knowledge of Windows, Linux and Mac OS

### Programming/Scripting Languages

Excellent knowledge of C, C++

Excellent knowledge of scripting languages (Perl, Python and Bash)

Good knowledge of MATLAB programming environment

Familiarized with Verilog HDL, Javascript and ActionScript

### CAD Software

Synopsis Design Compiler

Autodesk AutoCAD

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### Languages

**Greek** Native speaker

**English** Verbal and written fluency at an advanced level

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### Professional Activities

**Military Service**, *Greek Cypriot National Guard*, June 2005 – July 2007

Reserve Officer in the Telecommunications Division of the Cyprus Military

- Attended a military academy for reserve officers in Athens, Greece, specializing in military telecommunications, June 2005 – Sept 2005
- Served a 25-month military service as an officer
- Currently a reserve officer ranked as Second Lieutenant

– Webchair for the Design For Reliability (DFR) workshop, held in conjunction with *The 8th International Conference on High Performance and Embedded Architectures and Compiles (HiPEAC)*, 2013.

– Assisted in reviewing manuscripts for conferences such as:

- ACM Computing Surveys Journal, 2012
- DATE 2013
- MICRO 2011, 2012

– IEEE Student Member 2010 – Present

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## Recognition

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| 2013 | Powell Fellowship for academic years 2013–2016, UCSD Computer Science and Engineering.  |
| 2011 | Best Senior Design Project award in the Department of Electrical and Computer Engineering, University of Cyprus for academic year 2010-2011.        |
| 2008 | Award for excellent performance from the Department of Electrical and Computer Engineering of University of Cyprus for the academic year 2007-2008. |
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## Publications

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|------|---|
| 2013 | <b>Prodromou, A.</b> , A. Panteli, C. Nicopoulos, and Y. Sazeides. Nocalert: An on-line and real-time fault detection mechanism for network-on-chip architectures. In <i>Microarchitecture (MICRO), 2012 45th Annual IEEE/ACM International Symposium on</i> , pages 60–71, Dec 2012  |
| 2011 | D. Milojevic, S. Idgunji, D. Jevdjic, E. Ozer, P. Lotfi-Kamran, A. Panteli, <b>Prodromou, A.</b> , C. Nicopoulos, D. Hardy, B. Falsari, and Y. Sazeides. Thermal characterization of cloud workloads on a power-efficient server-on-chip. In <i>Computer Design (ICCD), 2012 IEEE 30th International Conference on</i> , pages 175–182, Sept 2012 |
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## Theses

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|------|---|
| 2013 | A. Prodromou. Detection and localization of transient, permanent and intermittent faults in network-on-chip routers via invariance checking. M.Sc. Thesis (Advisor: C. Nicopoulos), June 2013 |
| 2011 | A. Prodromou. Interconnx: A cycle-accurate network-on-chip (noc) simulator with a graphical user interface (gui). Undergraduate Thesis (Advisor: C. Nicopoulos), June 2011                    |