

# Vasileios Lekakis

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## Research Interests

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I am primarily interested in the areas of distributed systems, consistency protocols, file systems and computer networking.

## Education

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UNIVERSITY OF MARYLAND, College Park, MD

Ph.D. student in Computer Science (expected graduation: Summer 2014)      Fall 2009 – present  
Advised by Pete J. Keleher

UNIVERSITY OF CRETE, Greece

Master of Science in Computer Science      September 2007 – June 2009  
Advised by Mema Roussopoulos

UNIVERSITY OF CRETE, Greece

Bachelor of Science in Computer Science      September 2001 – June 2007

## Awards

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Student Travel Grant USENIX ATC 2012

Student Travel Grant USENIX FAST 2011

University of Maryland Computer Science Graduate Teaching Assistant Excellence Award, 2010

## Publications

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ARTICLES IN REFEREED CONFERENCES, JOURNALS AND WORKSHOPS

1. **Don't Trust Your Roommate, or, Access Control and Replication Protocols in 'Home' Environments.**

V. Lekakis, Y. Basagalar, P. Keleher.

The 4th USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage '12).

2. **Growing Distributed Systems from a Spore.**

Y. Basagalar, V. Lekakis, P. Keleher.

IEEE International Conference on Distributed Systems, (ICDCS) 2012. Acceptance rate: 13%.

3. **Selfish Overlay Network Creation and Maintenance.**

G. Smaragdakis, N. Laoutaris, V. Lekakis, A. Bestavros, J.W. Byers, and M. Roussopoulos.

To appear in IEEE/ACM Transactions on Networking, 2011..

4. **Sall1 regulates embryonic stem cell differentiation in association with Nanog.**

Karantzali E, Lekakis V, Ioannou M, Hadjimichael C, Papamatheakis J, Kretsovali A.

Journal of Biological Chemistry.

5. **Egoist: Overlay Routing using Selfish Neighbor selection.**

G. Smaragdakis, V. Lekakis, N. Laoutaris, A. Bestavros, J. Byers, M. Roussopoulos.

ACM CoNEXT 2008. December 2008 . Acceptance rate: 17.5%.

## Research Experience

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UNIVERSITY OF MARYLAND

Graduate Research Assistant; **advisor: Pete Keleher**

Sep. 2009 – present

**T.Rex:** The T.Rex project is based on the premise that data sharing platforms need to be dynamic, expressive, and user-centric. Further, we argue that such platforms need to include access control and the ability to enforce multiple consistency models, even in seemingly benign environments like the home. We are currently building a prototype of T.Rex that will run on Linux boxes, Macs, and iOS devices.

**Spore:** The Spore system seeks to build reliable and secure data systems on untrusted substrates. We rely only on untrusted put/get functionality for immutable objects. Hence, this underlying substrate could be anything from a P2P system running on end-user home machines to one of the commercial cloud providers.

**TBS:** Currently, bootstrapping in large distributed systems is performed in an altruistic manner. The TBS project seeks to transform the altruistic nature of bootstrapping into an incentive compatible one.

GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA

Visiting Student; **mentor: Constantine Dovrolis**

Nov. 2008 – Dec. 2008

**Skype-Study:** Collection, monitoring and analysis of Skype traces, as well as, the development of a heuristics framework for extracting and modeling the patterns of communication between Skype users.

INSTITUTE OF COMPUTER SCIENCE, Crete, Greece

Graduate Research Assistant; **advisor: M.Roussopoulos**

Sep. 2007 – Jul. 2009

**SNS:** The SNS project capitalizes on the substantial performance of best response wirings for a selfishly-built overlay, I implemented, deployed and evaluated a selfish neighbor selection inspired prototype for overlay routing, called Egoist (see also: <http://csr.bu.edu/sns>).

INSTITUTE OF COMPUTER SCIENCE, Crete, Greece

Undergraduate Research Assistant; **advisor: Maria Papadopouli**

Sep. 2005 – Dec. 2006

**ODC:** The ODC is a MAC protocol for wireless ad-hoc networks which exploits the availability of multiple channels to increase bandwidth utilization, reduce packet delays and increase energy savings. I evaluated the performance of ODC with extensive simulations in NS-2.

## Employment History

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TELEFONICA RESEARCH LABS, Barcelona, Spain

Research Intern; **mentor: Nikolaos Laoutaris**

June 2010 – August 2010

Participated in the development and the evaluation of a system for bulk inter-data transfers over the Internet.

## Skills

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LANGUAGES: C, Ruby, Python, Java, Javascript, HTML, SQL, Tcl

TOOLS: FUSE, ZeroMQ, Protocol Buffers, SQLite, Twisted, LibGCrypt, LibTomCrypt

TESTBEDS: PlanetLab, EmuLab

OPERATING SYSTEMS: Linux, Mac OS, Windows 95/XP

## Teaching Experience

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### UNIVERSITY OF MARYLAND

Teaching Assistant

CMSC412 Operating Systems Fall 2009

CMSC417 Computer Networks Spring 2010

CMSC417 Computer Networks Fall 2010

### UNIVERSITY OF CRETE, GREECE

Teaching Assistant

CS-335 Computer Networks Spring 2008

CS-439 Mobile Networks and Computing Fall 2007

CS-118 Discrete Mathematics Fall 2007

CS-118 Discrete Mathematics Fall 2006

## Relevant Courses

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### UNIVERSITY OF MARYLAND

CMSC818K Advanced Operating Systems Fall 2009

CMSC828R Distributed Data Collection Fall 2009

CMSC711 Computer Networks Spring 2010

CMSC818B Distributed File Systems Fall 2010

CMSC737 Fundamentals of Software Testing Fall 2010

CMSC858E Models & Algorithms for Socio-Technical Networks Spring 2011

UNIVERSITY OF CRETE CS528 Introduction to BioInformatics Fall 2007

CS554 Peer-2-Peer Systems Fall 2007

CS557 Secure Systems Fall 2008

CS457 Information Systems Security Fall 2008

CS435 Network Technology and Programming Spring 2008

CS565 Workflow Management Systems Spring 2009

CS439 Mobile Networks and Computing Spring 2009

CS474 Multimedia Technology Spring 2009