



**FORTH**

FOUNDATION FOR RESEARCH AND TECHNOLOGY - HELLAS

## KALEAO-Crete Development Centre

*Science and Technology Park of Crete (STEP-C), Vassilika Vouton, Heraklion*

### **INAUGURATION**

*Thursday, 30 June 2016*

#### **Invitation**

KALEAO Ltd., a high-tech start-up company based in Cambridge, UK, and the Institute of Computer Science (ICS) of FORTH, the Foundation for Research & Technology – Hellas in Heraklion Crete, Greece, in cooperation with STEP-C, the Science & Technology Park of Crete, invite you to the **Inauguration** of the *KALEAO-Crete Development Centre*, to be held on *Thursday 30 June 2016*, starting at 16:00, in FORTH's Amphitheatre.

Dr. Giampietro Tecchioli, co-founder and Chief Executive Officer of KALEAO, on the occasion of this Inauguration, offered the following statement: "KALEAO is a highly innovative company that aims to revolutionize the server market by enabling true convergence at web scale in its products. Kaleao is a European company with a global presence, that leverages European technology, with main operations across several European countries and its marketing arm in the USA. We are particularly proud of our Crete Development Centre in STEP-C, and of our collaboration with ICS-FORTH, which produced key components of our KMAX product, while at the same time we work towards creating a joint Research and Development Lab with ICS-FORTH, in Crete".

Professor Constantine Stephanidis, Director of ICS-FORTH, stated: "ICS-FORTH is a research institute internationally recognized for its excellence in the Information and Communications Technologies (ICT) sector. At ICS-FORTH, we strongly believe that one of the key factors for the future growth of the Greek economy is innovation in the high technology sectors and we have been working diligently for more than three decades for the advancement of science and technology in the ICT field, placing equal emphasis in basic and applied research, and aiming to bring the research results into the real economy of Greece - and Europe. FORTH plays a central role in the science and technology ecosystem of Crete. The island is the home of several academic and research institutions of the highest international standing, and is the host of high-tech developments that are based on three pillars: outstanding academic performance, capacity for excellent research, and propensity for industrial innovation. ICS-FORTH has always been working within the boundaries of this triangle, and I am personally very proud, as its Director, for the outcome of our unwavering contributions and active support in establishing, at international level, licensing agreements with industry, the transfer to industry of the intellectual property rights - thus monetizing research results, and the startup of a number of high tech companies that have their research and engineering basis operating in Crete – with this latest and most prominent addition of KALEAO. Our systematic approach in this direction has created several visible positive effects on the local Research and Technological Development ecosystem and is also contributing towards preventing, and ultimately reversing, the 'brain drain' trend in our field".

Professor John Goodacre, co-founder and Chief Scientific Officer of KALEAO, added: “KALEAO has just unveiled KMAX, our revolutionary product, which leverages, among others, some very useful research results from FORTH and from the EuroServer project of the European FP7 programme. KMAX, KALEAO's flagship solution, offers unprecedented compute density, providing, among others, up to 1 Terabit/second network into 192 eight-core ARM-based server sockets with 48 solid-state disk (SSD) slots (176 TeraBytes), all within just 3U height of rack space, with a hardware accelerated web-scale, software-defined application framework – see [www.kaleao.com](http://www.kaleao.com). We will keep innovating and offering revolutionary new products, and in order to be able to do that we invite interested and talented young scientists and engineers to come and join KALEAO, here in Crete in particular”.

Professor Manolis Katevenis, Head of the Computer Architecture and VLSI Systems (CARV) Laboratory, in ICS, FORTH, commented: “We are very happy that our three decades of research and the multiple hardware and systems software prototypes that we have built in CARV, within tens of European-funded projects including, recently, EuroServer, have led to a number of commercialization opportunities, for the benefit of Greece and Europe, with this one by KALEAO being the most recent. Thanks to the environment of meritocracy and smooth productiveness that FORTH and the Institute of Computer Science have created, our CARV Laboratory was able to more than triple in size within the last decade, thus achieving the scale that is a prerequisite for being able to attract international-level industrial growth. We keep inviting interested and talented young students and researchers to come and join CARV, ICS, and FORTH”.

The agenda of the Inauguration will be as follows:

### **Agenda – KALEAO-Crete Development Centre Inauguration – Thu. 30 June 2016**

<b>FORTH AMPHITHEATRE</b>	
16:00 – 17:00	<b>KEYNOTE SPEECH:</b> <i>The Picosecond is Dead; Long Live the Picojoule</i> <b>Prof. Christoforos Kozyrakis</b> , EPFL and Stanford University
17:00 – 17:40	<b>PRESS CONFERENCE</b>
	<b>WELCOME - Coffee</b>
17:40 – 17:45	<b>Prof. Costas Fotakis</b> , Alternate Minister of Research and Innovation
17:45 – 17:50	<b>Mr. Stavros Arnaoutakis</b> , Regional Governor of Crete
17:50 – 17:55	<b>Mr. Vassilis Lambrinos</b> , Mayor of Heraklion
17:55 – 18:00	<b>Prof. Constantine Stephanidis</b> , Director, Institute of Computer Science, FORTH
18:00 – 18:05	<b>Dr. Artemis Saitakis</b> , Director, Science & Technology Park of Crete
18:05 – 18:10	<b>Ms. Isabelle Dor</b> , Coordinator, EuroServer Project
18:10 – 18:20	<b>Dr. Julian Chesterfield</b> , Director of Emerging Technologies, OnApp Ltd.
18:20 – 18:25	<b>Prof. Manolis Katevenis</b> , Head, Computer Architecture & VLSI Systems Lab, FORTH-ICS
18:25 – 18:30	<b>Dr. Iakovos Mavroidis</b> , Head, KALEAO-Crete Development Centre
18:30 – 18:40	<b>Prof. John Goodacre</b> , Co-Founder and Chief Scientific Officer, KALEAO Ltd. (UK)
<b>STEP-C, Building B</b>	
19:00	<b>Inauguration of the KALEAO-Crete Development Centre</b> , Mr. Paul Arts, VP of Engineering, KALEAO Ltd. (Padova, IT)
<b>STEP-C, Patio in front of Building B</b>	
19:20 – 21:00	<b>Cocktail Party, light Live Music</b>

**Keynote Speech:**

*The Picosecond is Dead; Long Live the Picojoule*

**Christos Kozyrakis, EPFL & Stanford University**

**Abstract:**

For decades, CMOS technology provided exponential improvements in transistor density and energy consumption, allowing hardware architects to focus on removing picoseconds from processor clock cycles and adding megabytes to on-chip caches. Unfortunately, we are now in a phase where transistor cost and energy consumption are barely scaling. Consequently, the new name of the game is accounting for and optimizing every picojoule the hardware consumes. This talk will describe the challenges and opportunities in designing high performance, yet energy efficient systems. Specifically, we will discuss hardware and software specialization and raising utilization in datacenter systems. While these approaches represent a non-trivial departure from the way we design and use systems today, combined they can provide improvements equivalent to a few decades of Moore's law scaling.

**Speaker Biography:**

Christos is a professor of Computer and Communication Sciences at EPFL (Switzerland) and an associate professor of Computer Science and Electrical Engineering at Stanford University (USA). His research currently focuses on hardware and software techniques for resource efficient cloud computing. He is a member of the Pervasive Parallelism and Platform Labs at Stanford, two multi-faculty effort aiming improving the practicality and efficiency of multi-core and datacenter computing respectively. Christos holds a PhD degree from the University of California at Berkeley (USA) and a BS degree from the University of Crete (Greece). He is an IEEE fellow, a senior member of the ACM, and the recipient of distinctions such as the ACM Maurice Wilkes award and the NSF Career award.