

# MARIOS KOGIAS

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## RESEARCH FOCUS

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Operating Systems, Networking, Datacenters, Tail Latency, Remote Procedure Calls, Dataplanes, Scheduling, Load-balancing, Network Transports, Programmable Switches, Confidential Computing

## EDUCATION

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**Doctor of Philosophy** September 2015 - August 2020  
School of Computer and Communication Sciences  
École Polytechnique Fédérale de Lausanne (EPFL), Switzerland  
Advisor: Edouard Bugnion

**Diploma (5-year degree, Master's equivalent)** October 2009 - October 2014  
School of Electrical and Computer Engineering  
National Technical University of Athens (NTUA), Greece  
Thesis Advisor: Nektarios Koziris  
GPA: 9.36/10.00 (top 2%)

## EXPERIENCE

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**Imperial College London** June 2022 -  
*Lecturer (Assistant Professor)* London, UK

**Microsoft Research** September 2020 - Present  
*Researcher* Cambridge, UK

I am part of the Confidential Computing group under Manuel Costa.

**Microsoft Research** June 2018 - September 2018  
*Research Intern* Redmond, US

I worked as part of the Cloud Efficiency group on latency-critical VM scheduling.  
Advisors: Ricardo Bianchini, Sameh Elnikety

**Google** June 2016 - September 2018  
*Software Engineering Intern* Mountain View, US

I worked as part of the Platforms team on performance analysis of the Google datacenter network.  
Advisor: Malweeka Tewari

**CERN** November 2014 - April 2015  
*Software Engineering Intern* Geneva, CH

I worked on the invenio project, a digital library software, implementing a new search engine based on ElasticSearch

**okeanos, GRNET** July 2013 - September 2013  
*Junior Developer* Athens, GR

I contributed to the Synnefo project, specifically on the virtual networking infrastructure implementing the Openstack Neutron API for Synnefo in Python Django

I worked on sandboxing untrusted code execution and the sourcelair iOS application.

## AWARDS

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Dennis M. Ritchie Doctoral Dissertation Award 2021  
 Honorable Mention Roger Needham PhD Award 2021  
 ASPLOS 2021 Distinguished Artifact Award  
 Eurosys 2020 Best Student Paper Award  
 2019 IBM PhD Fellowship  
 EPFL PhD Fellowship 2015-2016

## GRANTS

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Microsoft Swiss JRC, Project: TTL-MSR (co-PI)  
 Usenix Student Grant to attend NSDI 2017

## SERVICE

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NSDI 2023  
 IEEE/ACM Transactions on Networking  
 IEEE Transactions on Parallel and Distributed Systems  
 ASPLOS 2022 ERC & Workshop and Tutorial co-Chair  
 Eurosys 2022  
 ANCS 2021  
 SOSR 2021  
 OOPSLA 2021 ERC  
 EurosysDW 2021 PC  
 SoCC 2020 mentor  
 ASPLOS 2020 Artifact Evaluation Committee  
 Eurosys 2020 Shadow PC  
 Eurosys 2017 Shadow PC

## TEACHING

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Principles of Computer Systems (EPFL, CS-522)	Winter 2017,2018,2019
Introduction to Operating Systems (EPFL, CS-323)	Spring 2019
Database Systems (EPFL, CS422)	Spring 2018
Mise a Niveau (EPFL, MAN)	Spring 2017
Computer Networks (EPFL, COM-208)	Winter 2016

## PUBLICATIONS

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### Conferences

- **When Idling is Ideal: Optimizing Tail-Latency for Heavy-Tailed Datacenter Workloads with Perséphone**  
 Henri Maxime Demoulin, Joshua Fried, Isaac Pedisich, **Marios Kogias**, Boon Thau Loo, Linh Thi Xuan Phan, Irene Zhang  
 SOSP 2021
- **Harvesting Idle CPUs Safely and Efficiently in the Cloud**  
 Yawen Wang, Kapil Arya, **Marios Kogias**, Manohar Vanga, Aditya Bhandari, Neeraja J. Yadwadkar, Siddhartha Sen, Sameh Elnikety, Christos Kozyrakis, and Ricardo Bianchini  
 Eurosys 2021

- **Enclosure: language-based restriction of untrusted libraries**  
Adrien Ghosn, **Marios Kogias**, James Larus, Ed Bugnion  
ASPLOS 2021
- **REAP: Record-and-Prefetch Serverless Functions Orchestration**  
Dmitrii Ustiugov, Plamen Petrov, **Marios Kogias**, Ed Bugnion, Boris Grot  
ASPLOS 2021
- **Bypassing the Load Balancer without Regrets**  
**Marios Kogias**, Rishabh Iyer, Ed Bugnion  
SoCC 2020
- **HovercRAFT: Achieving Scalability and Fault-tolerance for microsecond-scale Datacenter Services**  
**Marios Kogias**, Ed Bugnion Eurosys 2020 (Best Student Paper Award)
- **R2P2: Making RPCs first-class datacenter citizens**  
**Marios Kogias**, George Prekas, Adrien Ghosn, Jonas Fietz, Ed Bugnion  
Usenix ATC 2019
- **Lancet: A self-correcting Latency Measuring Tool**  
**Marios Kogias**, Stephen Mallon, Ed Bugnion  
Usenix ATC 2019
- **ZygOS: Achieving Low Tail Latency for Microsecond-scale Networked Tasks**  
George Prekas\*, **Marios Kogias\***, Ed Bugnion (\*equal co-authors)  
SOSP 2017

#### Workshops

- **Tail-Tolerance as a Systems Principle not a Metric**  
**Marios Kogias**, Ed Bugnion  
APNet2020
- **Flow Control for Latency-Critical RPCs**  
**Marios Kogias**, Ed Bugnion  
KBNets@SIGCOMM2018

#### Posters

- **SLOG: Your switch is also your load-generator**  
**Marios Kogias**, Martin Weber, Ed Bugnion  
NSDI 2020
- **Measuring Latency: Am I doing it right?**  
**Marios Kogias**, Christos Kozyrakis, Ed Bugnion  
NSDI 2017