

# Lefteris (Eleftherios) Sidiourgos

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Born: August 5, 1980—Athens, Greece  
Nationality: Greek

## Current position

*Senior Researcher (Post-Doctoral)*  
Systems Group, Department of Computer Science, ETH Zürich

## Research areas of interest

Database Architecture • Big Data Analytics and Column Stores • Data Management on New Hardware • Scientific and Graph Databases • Query Optimization and Processing • Adaptive and Partial Indexing • Sampling

## Education

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|------|---|
| 2014 | PhD in Computer Science, University of Amsterdam<br>Thesis: <i>"Space Efficient Indexes for the Big Data Era."</i><br>Promoter and Adviser: prof. Dr. Martin Kersten. Co-adviser: prof. Dr. Peter Boncz |
| 2005 | MSc in Computer Science, University Of Crete<br>Thesis: <i>"Indexing Views to Route and Plan Queries in a Peer Data Management System."</i><br>Adviser: prof. Dr. Vassilis Christophides                |
| 2003 | BSc in Mathematics, University Of Crete   |

## Grants, honors & awards

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|-----------|--|
| 2009      | <i>Open Competition Award for PhD funding.</i><br>Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO).               |
| 2003-2005 | <i>Graduate Scholarship.</i><br>Institute of Computer Science, Foundation for Research and Technology–Hellas (ICS-FORTH).      |
| 2001-2003 | <i>Undergraduate Scholarship.</i><br>Institute of Computer Science, Foundation for Research and Technology–Hellas (ICS-FORTH). |

## Academic & Industry Positions

03.2017-	<i>Senior Researcher (Post-Doctoral)</i> Systems Group, Department of Computer Science, ETH Zürich
12.2015-02.2017	<i>Scientific Researcher (Post-Doctoral)</i> Centrum Wiskunde & Informatica (CWI), Amsterdam
03.2016-06.2016	<i>Scientific Consultant</i> Blazegraph (formerly SYSTAP, LLC), Washington, D.C., USA
03.2015-12.2015	<i>Scientific Consultant</i> MonetDB Solutions b.v., Amsterdam
06.2014-02.2015	<i>Computer Scientist</i> LogicBlox/Predictix Inc., Atlanta, GA, USA
10.2009-12.2013	<i>Ph.D. Researcher</i> Centrum Wiskunde & Informatica (CWI), Amsterdam
05.2012-07.2012	<i>Research Intern</i> Microsoft Research, Redmond, WA, USA
10.2007-09.2009	<i>Scientific staff</i> Centrum Wiskunde & Informatica (CWI), Amsterdam
03.2007-05.2007	<i>Java Developer and Database Designer</i> MobileMedia Ltd., Athens
10.2003-09.2005	<i>Research Assistant</i> ICS-FORTH, Heraklion, Crete
10.2001-09.2003	<i>Research Assistant</i> ICS-FORTH, Heraklion, Crete
08.2002-11.2002	<i>Software Engineer</i> Cytech-ltd I.T. Solutions, Heraklion, Crete
05.2000-04.2001	<i>Unix System Administrator</i> University of Crete, Heraklion

## Funded Research/Project Participation

2007-	Core developer for the open source project <i>MonetDB: The column-store pioneer.</i>
2015-2017	The Commit Project (NL): <i>"TimeTrials: Spatiogtemporal Datawarehouses for Trajectory Exploitation."</i>
2010-2014	NWO Open Competition (NL): <i>"Querying while Transforming Large Graph Databases."</i>
2007-2009	Netherlands Forensic Institute (NL): <i>"XIRAF: An XML-IR Approach to Digital Forensics."</i>
2003-2005	C-Web (IST-1999-13479), MesMuses (IST-2001-26074), and QUESTION-HOW (IST-2000-28767) (FP5-IST EU): <i>"The ICS-FORTH RDFSuite: High-level Scalable Tools for the Semantic Web."</i>
2003-2005	Network of Excellence in Digital Libraries (Delos NoE-6038-507618) (EU): <i>ICS-FORTH SQPeer Middleware.</i>
2001-2003	ARION (IST-2000-25289) (FP5-IST EU): <i>"ARION: An advanced lightweight architecture for accessing scientific collections."</i>

## Publications

*Citations indices:* Up-to-date 478 citations, h-index 9, i10-index 8 (from Google scholar).

### CONFERENCE & WORKSHOP PROCEEDINGS

- [c10] Sidiourgos, Lefteris, and Hannes Mühleisen. "Scaling Column Imprints using Advanced Vectorization." 13th International Workshop on Data Management on New Hardware (**DaMoN 2017**). In proceedings of the 2017 ACM SIGMOD/PODS International Conference on Management of Data (SIGMOD'17). ACM, 2017.
- [c9] Kersten, Martin, and Lefteris Sidiourgos. "A Database System with Amnesia." In Proceedings of the biennial Conference on Innovative Data Systems Research (**CIDR'17**), 2017.
- [c8] Sidiourgos, Lefteris, Martin Kersten, and Peter Boncz. "Scientific discovery through weighted sampling." In Proceedings of the 2013 IEEE International Conference on Big Data (**IEEE BigData 2013**), pp. 300-306. IEEE, 2013.
- [c7] Sidiourgos, Lefteris, and Martin Kersten. "Column imprints: a secondary index structure." In Proceedings of the 2013 ACM SIGMOD International Conference on Management of Data (**SIGMOD'13**), pp. 893-904. ACM, 2013.
- [c6] Tsialiamanis, Petros, Lefteris Sidiourgos, Irini Fundulaki, Vassilis Christophides, and Peter Boncz. "Heuristics-based query optimisation for SPARQL." In Proceedings of the 15th International Conference on Extending Database Technology (**EDBT/ICDT '12**), pp. 324-335. 2012.
- [c5] Sidiourgos, Lefteris, Martin L. Kersten, and Peter A. Boncz. "SciBORQ: Scientific data management with Bounds On Runtime and Quality." In Proceedings of the biennial Conference on Innovative Data Systems Research (**CIDR'11**), pp. 296-301. 2011.
- [c4] Héman, Sándor, Marcin Zukowski, Niels J. Nes, Lefteris Sidiourgos, and Peter Boncz. "Positional update handling in column stores." In Proceedings of the 2010 ACM SIGMOD International Conference on Management of Data (**SIGMOD'10**), pp. 543-554. ACM, 2010.
- [c3] Sidiourgos, Lefteris, and Peter Boncz. "Generic and updatable XML value indices covering equality and range lookups." Fourth International workshop on Database Technologies for Handling XML Information on the Web (**DataX'09**). In Proceedings of the 12th International Conference on Extending Database Technology (EDBT/ICDT) Workshops, pp. 65-73, 2009.
- [c2] Tang, Nan, Lefteris Sidiourgos, and Peter Boncz. "Space-economical partial gram indices for exact substring matching." In Proceedings of the 18th ACM conference on Information and Knowledge Management (**CIKM'09**), pp. 285-294. ACM, 2009.
- [c1] Kokkinidis, George, Lefteris Sidiourgos, Theodore Dalamagas, and Vassilis Christophides. "Semantic Query Routing and Processing in P2P Digital Libraries." In Proceedings of the 8th International Workshop of the DELOS Network of Excellence on Digital Libraries. 2005.

### JOURNAL ARTICLES

- [j2] Sidiourgos, Lefteris, Romulo Goncalves, Martin Kersten, Niels Nes, and Stefan Manegold. "Column-store support for RDF data management: not all swans are white." Proceedings of the VLDB Endowment (**PVLDB**) 1, no. 2, pp. 1553-1563. 2008.

- [j1] Sidiourgos, Lefteris, George Kokkinidis, Theodore Dalamagas, Vassilis Christophides, and Timos Sellis. *"Indexing views to route queries in a PDMS."* Distributed and Parallel Databases 23, no. 1, pp. 45-68. 2008.

#### BOOKS

- [p1] Kokkinidis, George, Lefteris Sidiourgos, and Vassilis Christophides. *"Query processing in RDF/S-based P2P database systems."* In Semantic Web and Peer-to-Peer, pp. 59-81. Springer Berlin Heidelberg, 2006.

#### DISSERTATIONS

- [d2] Sidiourgos, Lefteris. *"Space Efficient Indexes for the Big Data Era."* Doctor of Philosophy dissertation. UvA-DARE (Digital Academic Repository). Faculty of Natuurwetenschappen, Wiskunde en Informatica, University of Amsterdam, 2014.
- [d1] Sidiourgos, Lefteris. *"Indexing Views to Route and Plan Queries in a Peer Data Management System."* Master of Science dissertation. Computer Science Department, University of Crete, 2005.

#### NATIONAL CONFERENCES

- [n3] Heman, Sandor, Marcin Zukowski, Niels Nes, Lefteris Sidiourgos, Peter Boncz. *"Positional update handling in column stores."* In Proceedings of the 9th Hellenic Data Management Symposium (HDMS'10), Ayia Napa, Cyprus. 2010.
- [n2] Sidiourgos, Lefteris. *"Column-Store Support for RDF Data Management: not all swans are white."* In Dutch-Belgian Database Day (DBDBD'08). Namur, Belgium, Oct 10, 2008.
- [n1] Sidiourgos, Lefteris, George Kokkinidis, and Theodore Dalamagas. *"Efficient query routing in RDF/S schema-based P2P systems."* In Proceedings of the 4th Hellenic Data Management Symposium (HDMS'05), Athens, Greece. 2005.

### Invited Talks

- 11.2016 *"A Nexus of Indexes."* Systems Group, ETH Zürich.
- 09.2016 *"A Database System with Amnesia."* CWI Scientific Meeting, Amsterdam.
- 06.2013 *"Bits are Valuable: making a Frugal Database Kernel."* LogicBlox, Atlanta, GA, USA.
- 04.2013 *"Column Imprints: A Secondary Index Structure."* DIAS Lab, EPFL, Lausanne.
- 01.2011 *"SciBORQ: Scientific data management with Bounds On Runtime and Quality."* HP Labs, Palo Alto, CA, USA.
- 01.2011 *"SciBORQ: Scientific data management with Bounds On Runtime and Quality."* IBM Research Almaden, San Jose, CA, USA.

## Teaching Assistant

Spring 2017	<i>Data Modelling and Databases</i> Department of Computer Science, ETH Zürich Lecturers: prof. Dr. Gustavo Alonso, prof. Dr. Ce Zhang
Fall 2009	<i>Advance Database Technologies</i> Informatics Institute, University of Amsterdam Lecturer: prof. Dr. Martin Kersten
Fall 2008	<i>Advance Database Technologies</i> Informatics Institute, University of Amsterdam Lecturer: prof. Dr. Martin Kersten
Fall 2005	<i>Web Data Management</i> Computer Science Department, University of Crete Lecturer: prof. Dr. Vassilis Christophides
Spring 2004	<i>Object Oriented Programming</i> Computer Science Department, University of Crete Lecturer: prof. Dr. Vassilis Christophides
Fall 2004	<i>Object Oriented Programming</i> Computer Science Department, University of Crete Lecturer: prof. Dr. Vassilis Christophides
Fall 2003	<i>Data Structure</i> Computer Science Department, University of Crete Lecturer: prof. Dr. Georgios Georgakopoulos
Spring 2003	<i>Numerical Analysis</i> Department of Mathematics, University of Crete Lecturer: prof. Dr. Emmanuel Vavalis
Spring 2002	<i>Numerical Analysis</i> Department of Mathematics, University of Crete Lecturer: prof. Dr. Emmanuel Vavalis
Fall 2000	<i>Introduction to Programming</i> Department of Mathematics, University of Crete Lecturer: prof. Dr. Emmanuel Vavalis

## Service to the profession

### PROGRAM COMMITTEE MEMBER

- 2017      Reproducibility Committee – *ACM SIGMOD Reproducibility* 2017/2018.
- 2017      Research Track – 43rd International Conference on *Very Large Data Bases (VLDB)* 2017.
- 2016      Demo Track – 42nd International Conference on *Very Large Data Bases (VLDB)* 2016.
- 2014      2nd International workshop on *Benchmarking RDF Systems (BeRSys 2014)*, co-located with VLDB.

### JOURNAL REVIEWER

- 2017      *Elsevier Journal of Information Systems (IS)*.
- 2010, 2015      *IEEE Transactions on Knowledge and Data Engineering (IEEE TDKE)*.
- 2010, 2011, 2012, 2014      *Elsevier Journal of Web Semantics (JWS)*.
- 2008      *Springer Journal of Computer Science and Technology (JCST)*.

### EXTERNAL REVIEWER

- 2009, 2010, 2011      ACM SIG International Conference on *Management of Data (SIGMOD)*.
- 2009, 2010, 2011      International Conference on *Extending Database Technology (EDBT)*.
- 2011      International Workshop on *Data Warehousing and OLAP (DOLAP)*, co-located with CIKM.
- 2005, 2009, 2010, 2011, 2013      International Conference on *Very Large Data Bases (VLDB)*.
- 2009      *International Journal on Semantic Web and Information Systems (IJSWIS)*.
- 2008      International *World Wide Web* conference (WWW).