

# 0. Dimitrios Tsoumakos, PhD

## 0.1. Personal 40 Terpsitheas Street, 15341, Athens, Greece

Date of Birth	14/04/1976
Place of Birth	ATHENS
Family Status	SINGLE
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### 0.1.1. Studies

2002- 2006	Doctor of Philosophy (PhD), Computer Science Department, University of Maryland, College Park, 20742, USA Title of Thesis: 'Search, Replication and Data Dissemination for Unstructured P2P Networks' Advisor: Prof. Nicholas Roussopoulos
2000- 2002	Master of Science (MSc), Computer Science Department, University of Maryland, College Park, 20742, USA Title of Thesis: ' <i>Tracking the Locality of change in Web Pages</i> ' Advisor: Prof. Nicholas Roussopoulos
1994- 1999	Diploma in Electrical and Computer Engineering, School of Electrical and Computer Engineering, National Technical University of Athens, Greece Title of Thesis: 'Electronic Study Guide of the ECE Department' Advisor: Prof. Timos Sellis

### 0.1.2 Scholarships and Awards

2000-2002	<b>UMIACS (University of Maryland Institute for Advanced Computer Studies) scholarship</b>
1998	<b>«Karydoyiannis» scholarship for high G.P.A. (9.6/10.0)</b>
1994	<b>«Papastavridis» scholarship for my admittance to the ECE department (6<sup>th</sup> out of 160)</b>

### 0.1.3 Publications

#### 0.1.3.1 Theses

- [T01] **Tsoumakos, D.** 2006. 'Search, Replication and Data Dissemination for Unstructured P2P Networks', PhD Thesis, Computer Science Department, University of Maryland, College Park, 20742, USA.
- [T02] **Tsoumakos, D.** 2002. 'Tracking the Locality of change in Web Pages', MSc Thesis, Computer Science Department, University of Maryland, College Park, 20742, USA.
- [T03] **Tsoumakos, D.** 2002. 'Electronic Study Guide of the ECE Department', Diploma Thesis, School of Electrical and Computer Engineering, National Technical University of Athens, Greece.

#### 0.1.3.2 Studies, Educational Books

### 0.1.3.3 Articles in Refereed International Journals

- [J01] **Asiki, A., Tsoumakos, D., Koziris, N.** 2012. 'Distributing Multidimensional Data using the LinkedPeers System', Accepted Manuscript, in special issue of *LNCS Transactions on Large-Scale Data- and Knowledge-Centered Systems(TLDKS)*.
- [J02] **Doka, K., Tsoumakos, D., Koziris, N.** 2011. 'Brown Dwarf: A Fully-Distributed, Fault-Tolerant Data Warehousing System', Accepted Manuscript, *Journal of Parallel and Distributed Computing*.
- [J03] **Konstantinou, I., Tsoumakos, D., Koziris, N.** 2011. 'Fast and Cost-Effective Online Load-Balancing in Distributed Range-Queriable Systems', In *Transactions on Parallel and Distributed Systems*, 22(8), 1350-1364, Aug. 2011.
- [J04] **Doka, K., Tsoumakos, D., Koziris, N.** 2010. 'Online Querying of d-Dimensional Hierarchies', *Journal of Parallel and Distributed Computing*, 71(3), 424-437, March 2011.
- [J05] **Asiki, A., Tsoumakos, D., Koziris, N.** 2010. 'Distributing and Searching Concept Hierarchies: An Adaptive DHT-based System', *Cluster Computing*, 13(3): 257-276.
- [J06] **Chazapis, A., Asiki, A., Tsoukalas, G., Tsoumakos, D., Koziris, N.** 2010. 'Replica-aware, multi-dimensional range queries in Distributed Hash Tables', *Computer Communications* 33(8): 984-996.
- [J07] **Asiki, A., Doka, K., Zissimos, A., Konstantinou, I., Tsoumakos, D., Koziris, N., Tsanakas, P.** 2009. 'A Grid middleware for data management exploiting Peer-to-Peer techniques', *FUTURE GENERATION COMPUTER SYSTEMS*, 25: 426-435.
- [J08] **Kantere, V., Tsoumakos, D., Sellis, T., Roussopoulos, N.** 2009. 'GrouPeer: Dynamic Clustering of P2P Databases', *Information Systems* 34(1): 62-86
- [J09] **Kantere, V., Tsoumakos, D., Sellis, T.** 2008. 'A Framework for Semantic Grouping in P2P Databases', *Information Systems* 33(7-8): 611-636
- [J10] **Tsoumakos, D., Roussopoulos N.** 2003. 'Probabilistic Knowledge Discovery and Management for P2P Networks', *P2P Journal*, November 2003

### 0.1.3.5 Book Chapters

### 0.1.3.6 Articles in Refereed International Conferences

- [C01] **Konstantinou, I., Angelou, E., Tsoumakos, D., Boumpouka, C., Koziris, N., Sioutas, S.**, 2012. 'TIRAMOLA: Elastic NoSQL Provisioning through A Cloud Management Platform'. To appear in proceedings of the 2012 ACM SIGMOD/PODS International Conference on Management of Data (Demo Track), Scottsdale, Arizona, USA, May 20-24, 2012.
- [C02] **Papailiou, N., Konstantinou, I., Tsoumakos, D., Koziris, N.**, 2012. 'H<sub>2</sub>RDF: Adaptive Query Processing on RDF Data in the Cloud'. To appear in proceedings of the 21st International World Wide Web Conference (WWW2012 Demo Track), Lyon, France, April 16-20 2012.
- [C03] **Antonopoulos, P., Konstantinou, I., Tsoumakos, D., Koziris, N.**, 2012. 'Efficient Updates for Web-scale Indexes over the Cloud'. To appear in proceedings of the Data Management in the Cloud (DMC) Workshop, Colocated with ICDE 2012, Washington, DC, April 5th 2012.
- [C04] **Sioutas, S., Panaretos, A., Karydis, I., Tsoumakos, D.**, 2012. 'SART: Dynamic P2P Query Processing in Sensor Networks with probabilistic guarantees'. To appear in proceedings of the 27th Symposium on Applied Computing (ACM SAC 2012), March 26-30, 2012, Riva del Garda (Trento), Italy.
- [C05] **Sakkopoulos, E., Sioutas, S., Papaloukopoulos, G., Panaretos, A., Tsoumakos, D., Saltou, A.**, 2012. 'DREAM: A Distributed fRamework for customized dEployment of a vAriety of indexing engines over Million-node overlays'. To appear in proceedings of the 27th Symposium on Applied Computing (ACM SAC 2012), March 26-30, 2012, Riva del Garda (Trento), Italy.
- [C06] **Konstantinou, I., Angelou, E., Boumpouka, C., Tsoumakos, D., Koziris, N.**, 2011. 'On the Elasticity of NoSQL Databases over Cloud Management Platforms'. In proceedings of the 20th ACM Conference on Information and Knowledge Management (CIKM 2011) – poster paper, October 24-28, 2011 – Glasgow, Scotland.
- [C07] **Doka, A., Tsoumakos, D., Koziris, N.**, 2011., 'KANIS: Preserving k-Anonymity Over Distributed Data'. In proceedings of the 5th International Workshop on Personalized Access, Profile Management, and Context Awareness in Databases (PersDB 2011), September 2, 2011 - Seattle, WA.
- [C08] **Asiki, A., Tsoumakos, D., Koziris, N.**, 2011., 'LinkedPeers: A Distributed System for Interlinking Multidimensional Data'. In proceedings of the 22nd International Conference on Database and Expert Systems Applications (DEXA 2011), Toulouse, France, August 29 - September 2, 2011.

- [C09] **Doka, A., Tsoumakos, D., Koziris, N.**, 2010., 'Brown Dwarf: A P2P Data-Warehousing System'. In proceedings of the 19th ACM International Conference on Information and Knowledge Management (demo track), Toronto, Canada, October 26-30, 2010.
- [C10] **Doka, A., Tsoumakos, D., Koziris, N.**, 2010., 'Brown Dwarf: Distributing the Power of OLAP'. In proceedings of the 19th ACM International Symposium on High Performance Distributed Computing (HPDC'10), Chicago, Illinois, USA, June 23-25, 2010.
- [C11] **Doka, A., Tsoumakos, D., Koziris, N.**, 2010., 'Efficient Updates for a Shared Nothing Analytics Platform'. In Proceedings of the International Workshop on Massive Data Analytics over the Cloud (MDAC2010) in conjunction with WWW 2010, Raleigh, North Carolina, USA, April 26, 2010.
- [C12] **Konstantinou, I., Angelou, E., Tsoumakos, D., Koziris, N.**, 2010. 'Distributed Indexing of Web Scale Datasets for the Cloud'. In Proceedings of the International Workshop on Massive Data Analytics over the Cloud (MDAC2010) in conjunction with WWW 2010, Raleigh, North Carolina, USA, April 26, 2010.
- [C13] **Zisimos, A., and Doka, K., Chazapis, A., Tsoumakos, D., and Koziris, N.**, 2009., 'Optimizing Data Management in Grid Environments'. In Proceedings of the 11th International Symposium on Distributed Objects, Middleware, and Applications (DOA'09), Vilamoura, Algarve-Portugal, Nov01- 03, 2009.
- [C14] **Konstantinou, I., Tsoumakos, D., Koziris, N.** 2009. 'Measuring the Cost of Online Load-Balancing in Distributed Range-Queryable Systems'. In Proceedings of the Ninth International Conference on Peer-to-Peer Computing, Seattle, WA, USA, 8-11 Sept. 2009.
- [C15] **Asiki, A., Tsoumakos, D., Koziris, N.** 2009. 'An Adaptive On-line System for Efficient Processing of Hierarchical Data', In Proceedings of the 18th International Symposium on High Performance Distributed Computing (HPDC), Munich, Germany, 11-13 June 2009.
- [C16] **Doka, A., Tsoumakos, D., Koziris, N.** 2008. 'HiPPIS: An Online P2P System for Efficient Lookups on d-Dimensional Hierarchies', In Proceedings of the 10th International Workshop on Web Information and Data Management, Napa Valley, California, 26-30 October 2008.
- [C17] **Konstantinou, I., Tsoumakos, D., Koziris, N.** 2008. 'PASS It ON (PASSION): An Adaptive Online Load-Balancing Algorithm for Distributed Range-Query specialized Systems', In Proceedings of the 16th International Conference on Cooperative Information Systems (Poster Paper), Monterrey, Mexico, 12-14 November 2008.
- [C18] **Asiki, A., Doka, A., Tsoumakos, D., Koziris, N.** 2008. 'Online Querying of Concept Hierarchies in P2P Systems', In Proceedings of the 16th International Conference on Cooperative Information Systems, Monterrey, Mexico, 12-14 November 2008.
- [C19] **Asiki, A., Doka, A., Tsoumakos, D., Koziris, N.** 2008. 'Support for Concept Hierarchies in DHTs', In Proceedings of 8th International Conference on Peer-to-Peer Computing, Aachen University, Germany, 8-11 September 2008.
- [C20] **Kantere, V., Tsoumakos, D., Sellis, T.**, 2008. 'Semantic Grouping of Social Networks in P2P Database Settings'. In proceedings of the 18th International Conference on Database and Expert Systems Applications (DEXA '07), Regensburg, Germany, 3-7 September 2007.
- [C21] **Tsoumakos, D., Roussopoulos N.** 2006. 'APRE: An Adaptive Replication Scheme for Unstructured Overlays'. In proceedings of the 14th International Conference on Cooperative Information Systems (CoopIS 2006), Montpellier, France, Nov 1-Nov 3 2006.
- [C22] **Tsoumakos, D., Roussopoulos N.** 2006. 'Analysis and Comparison of P2P Search Methods'. In proceedings of the first International Conference on Scalable Information Systems (INFOSCALE 2006), Hong Kong , May 30-June 1 2006.
- [C23] **Tsoumakos, D., Roussopoulos N.** 2005. 'AGNO: An Adaptive Group Communication Scheme for Unstructured P2P Networks. In proceedings of the 2005 Euro-Par Conference, Lisbon, Portugal ,August 31-September 2, 2005.
- [C24] **Bitsakos, K., Tsoumakos, D., Roussopoulos N., Alimonos, I.** 2005. 'A Framework for Distributed Human Tracking'. In proceedings of the 2005 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'05), Las Vegas, NV, USA, June 27-30, 2005.
- [C25] **Kantere, V., Tsoumakos, D., Roussopoulos N.** 2004. 'Querying Structured Data in an Unstructured P2P System'. In proceedings of the 6th ACM International Workshop on Web Information and Data Management (WIDM 2004), Washington, DC, USA, November 12-13, 2004.
- [C26] **Tsoumakos, D., Roussopoulos N.** 2004. 'A Framework for Sharing Voluminous Content in P2P Systems'. In proceedings of the 2004 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'04), Las Vegas, Nevada, USA, June 21-24, 2004.
- [C27] **Tsoumakos, D., Roussopoulos N.** 2003. 'Adaptive Probabilistic Search for Peer-to-Peer Networks. In proceedings of the 3rd IEEE International Conference on P2P Computing, Linkoping, Sweden, Sept 1-3 2003.

- [C28] **Tsoumakos, D., Roussopoulos N.** 2003. 'A Comparison of Peer-to-Peer Search Methods'. In proceedings of the Sixth International Workshop on the Web and Databases, San Diego, CA, USA, June 12-13 2003.

#### **0.1.3.9. Conference Proceedings**

#### **0.1.3.10. Consulting**

### **0.1.4. Teaching Experience**

#### **0.1.4.1 Teaching**

**2011-2012** Department of Informatics, Ionian University

##### **Teaching**

###### **Classes:**

- [T 01] HY400 – Operating Systems
- [T 02] HY110 – Introduction to Computer Programming
- [T 03] HY200 – Internet Technologies
- [T 04] HY270 – Advanced Internet Technologies
- [T 05] HY110 – Computer Programming

**2010-2011** Department of Informatics, Ionian University

##### **Teaching**

###### **Classes:**

- [T 01] HY315 – Information Systems Analysis and Design
- [T 02] HY200 – Internet Technologies
- [T 03] HY270 – Advanced Internet Technologies
- [T 04] HY110 – Computer Programming

**2009-2010** Computer Science Department, University of Cyprus

##### **Teaching**

###### **Classes:**

- [T 01] EΠA602 – Foundations of Internet Technologies (Graduate Course)
- [T 02] EΠA012 – Web Design Technologies
- [T 03] EΠA003 – Computer Science and Information Systems
- [T 04] EΠA132 – Programming Principles II

**2000-2001** Computer Science Department, University of Maryland

##### **Teaching Assistant**

###### **Classes:**

- [TA 01] CMSC 214 – Computer Science II ( C++ )
- [TA 02] CMSC 424 – Data Base Systems

**1999-2000** School of Electrical and Computer Engineering, National Technical University of Athens

##### **Teaching Assistant**

###### **Classes:**

- [TA 01] Data Structures (4<sup>th</sup> Semester Course)

#### **0.1.4.2. Advising of Doctoral Students**

##### **PhD Completions**

<b>Student</b>	<b>Title</b>	<b>Year</b>
Aikaterini Doka	Distributed Database Systems	2007-2011
Ioannis Konstantinou	Distributed Systems	2007-2011

Athanasia Asiki                      Distributed / Grid Systems                      2007-2012

Dr. Tsoumakos is supervising the following students:

<b>Student</b>	<b>Area</b>	<b>Year</b>
Nikolaos Papailiou	Cloud Data Management	2011-
Christina Mpoubouka	Cloud Computing Operating Systems	2010-

## **0.1.5 Professional and Research Experience**

### **0.1.5.1 Professional Positions**

#### **0.1.5.1.1 Academic and Research Positions**

2012-now	Assistant Professor Department of Informatics Ionian University
2010- 2012	Visiting Professor Department of Informatics Ionian University
2009- 2010	Visiting Professor Department of Computer Science University of Cyprus
2006-	PostDoctoral – Senior Researcher Computing Systems Lab School of Electrical and Computer Engineering National Technical University of Athens
2006- 2002	Graduate Researcher Institute for Systems Research University of Maryland

#### **0.1.5.1.2 Consulting Services**

#### **0.1.5.1.3 Other Professional Positions**

1999 - 2000	Database programmer for Energy Database School of Electrical and Computer Engineering National Technical University of Athens
1998 - 1999	Web Developer GIS Laboratory, School of Architecture National Technical University of Athens

### **0.1.5.2 Participation in Research Projects**

2011- 2013	ARCOMEM Project – From Collect-All Archives to Community Memories – Leveraging the Wisdom of the Crowds for Intelligent Preservation, FP7-ICT-2009.4.1, team technical leader.
2006- 2009	GREDA Project – Grid Enabled Access to Rich media Content, FP6-34363, project team leader. This project aims at the design and implementation of an efficient multimedia storage, querying and management system in grid systems.

2002-2006 CIP-URI ARMY Research Project: “Distributed Immune Systems for Wireless Networks”, graduate researcher. The aim of this research project was the design and development of algorithms in order to assist in the prompt and effective detection of intrusions in Mobile Ad-hoc Networks (intrusion detection in MANETS).

## 0.1.6. Other

### 0.1.7.1. Various responsibilities in International Journals and Conferences

#### 0.1.7.1.1. Journals

##### 0.1.7.1.1.1. Editor in International Journals

##### 0.1.7.1.1.2 Guest Editor in International Journals

##### 0.1.7.1.1.3. Editorial Board Member in International Journals

##### 0.1.7.1.1.4. Referee in International Journals

- [1] ACM Transactions on Internet Technology
- [2] Data and Knowledge Engineering Journal (DKE)
- [3] IEEE Transactions on Learning Technologies
- [4] Information Sciences
- [5] Journal of Computer Science and Technology (JCST)
- [6] Computer Communications (Elsevier)
- [7] IEEE Transactions on Parallel and Distributed Systems
- [8] Information Systems
- [9] IEEE Transactions on Knowledge and Data Engineering (TKDE)

##### 0.1.7.1.2. Conferences

PC member – International Conference on Theory and Practice of Digital Libraries (TPDL 2011)  
 PC member - 6<sup>th</sup> International Workshop on Using P2P, Grid and Agents for the Development of Content Networks (upgrade-cn2011)

##### 0.1.7.1.2.1 Organization-Coordination of Mini-tracks

##### 0.1.7.1.2.2. Scientific – Organizing Committee Member

##### 0.1.7.1.2.3. Referee in International Conferences

Year	Conference	Abbrev.
2002	ACM's Special Interest Group on Management Of Data	SIGMOD
2003	International Conference on Very Large Data Bases	VLDB
2004	International Conference on Distributed Computing Systems	ICDCS
2004	Agents and Peer-to-Peer Computing	AP2PC
2004	IEEE International Conference on P2P Computing	P2P
2005	Americas Conference on Information Systems	AMCIS
2007	ACM's Special Interest Group on Management Of Data	SIGMOD
2008	International Workshop on Data Management in Peer-to-peer systems	DAMAP
2008	International Conference on Parallel Processing	ICPP
2008	IEEE International Conference on Data Engineering	ICDE
2009	International Conference on Very Large Data Bases	VLDB

### 0.1.7.2. Participation in Committees, Study Groups and Administrative Positions

### 0.1.7.3. Main Speaker in Specialized Seminars

18/03/2008	University of Crete – Foundation for Research and Technology
Multiple	University of Maryland – Comp. Sci. Dept, Database Chat
05/03/2009	University of Crete – Department of Computer Science
22/06/2009	Technical University of Crete – Dept. of Electrical and Computer Engineering
04/11/2009	University of Cyprus – Computer Science Department
23/02/2010	University of Ioannina – Computer Science Department
01/04/2011	National and Kapodistrian University of Athens – Department of Informatics
19/05/2011	National Technical Un. of Athens – Dept. of Electrical and Computer Engineering

## 0.2. Citations

Up to date, there have been over 600 citations (Publish or Perish and Google Scholar). We choose to present a small number of them (complete number in parenthesis)

**[1] D. Tsoumakos and N. Roussopoulos: Adaptive Probabilistic Search for Peer-to-Peer Networks. In proceedings of the 3rd IEEE International Conference on P2P Computing, Sept 1-3 2003, Linkoping, Sweden (281 references)**

- [A01] Kumar, A. Xu, J. Zegura, E. W. 2005. ‘Efficient and Scalable Query Routing for Unstructured Peer-to-Peer Networks’, IEEE INFOCOM, 2005, VOL 2, pages 1162-1173
- [A02] D. Zeinalipour-Yazti, V. Kalogeraki, D. Gunopulos. 2005. ‘Exploiting locality for scalable information retrieval in peer-to-peer networks’, Information Systems, Vol. 30, Issue 4, June 2005
- [A03] Yang, B. Vinograd, P. Garcia-Molina, H. 2004. ‘Evaluating GUESS and Non-Forwarding Peer-to-Peer Search’. In International Conference on Distributed Computing Systems, 2004, VOL 24, pages 209-218

**[2] D. Tsoumakos and N. Roussopoulos: A Comparison of Peer-to-Peer Search Methods. In proceedings of the Sixth International Workshop on the Web and Databases, June 12-13 2003, San Diego, USA (158 references)**

- [A01] S. Androutsellis-Theotokis, D. Spinellis. 2004. ‘A survey of peer-to-peer content distribution technologies’, ACM Computing Surveys (CSUR), Volume 36 , Issue 4 (December 2004)
- [A02] H. Zhuge, J. Liu, L. Feng, X. Sun, C. He. 2005. ‘QUERY ROUTING IN A PEER-TO-PEER SEMANTIC LINK NETWORK’, Computational Intelligence 21 (2), Volume 21 Issue 2 Page 197-216, May 2005
- [A03] Xu, L. Dai, C. Cai, W. Zhou, S. Zhou, A. 2004. ‘Towards Adaptive Probabilistic Search in Unstructured P2P Systems’. LECTURE NOTES IN COMPUTER SCIENCE (APWeb2004), 2004, ISSUE 3007, pages 258-268

**[3] D. Tsoumakos and N. Roussopoulos: Analysis and Comparison of P2P Search Methods. In proceedings of the first International Conference on Scalable Information Systems (INFOSCALE 2006), May 30-June 1, Hong Kong (77 references)**

- [A01] Exarchakos, G. Antonopoulos, N. 2007. ‘Resource Sharing Architecture For Cooperative Heterogeneous P2P Overlays’, JOURNAL OF NETWORK AND SYSTEMS MANAGEMENT, 2007, VOL 15; NUMBER 3, pages 311-334
- [A02] S. Blanas, V. Samoladas. 2007. ‘Contention-based performance evaluation of multidimensional range search in peer-to-peer networks’. Proceedings of the 2nd international conference on Scalable information systems.

**[4] V. Kantere and D. Tsoumakos and T. Sellis and N. Roussopoulos: GrouPeer: Dynamic Clustering of P2P Databases. Information Systems Journal (24 references)**

[11] A. Asiki and K. Doka and A. Zissimos and I. Konstantinou and D. Tsoumakos and N. Koziris and P. Tsanakas: A Grid middleware for data management exploiting Peer-to-Peer techniques. In **FUTURE GENERATION COMPUTER SYSTEMS**, 25 (2009) 426–435. (9 references)

[4] D. Tsoumakos and N. Roussopoulos: APRE: An Adaptive Replication Scheme for Unstructured Overlays. In proceedings of the 14th International Conference on Cooperative Information Systems (CoopIS 2006), Nov 1-Nov 3 2006, Montpellier, France (6 references)

[5] D. Tsoumakos and N. Roussopoulos: AGNO: An Adaptive Group Communication Scheme for Unstructured P2P Networks. In proceedings of the 2005 Euro-Par Conference, August 31-September 2, 2005, Lisbon, Portugal (6 references)

[12] V. Kantere and D. Tsoumakos and T. Sellis: A Framework for Semantic Grouping in P2P Databases. In *Inf. Syst.* 33(7-8): 611-636 (2008) (4 references)

[13] K. Doka and D. Tsoumakos and N. Koziris: HiPPIS: An Online P2P System for Efficient Lookups on d-Dimensional Hierarchies. In Proceedings of the 10th International Workshop on Web Information and Data Management, Napa Valley, California, 26-30 October 2008 (4 references)

[6] V. Kantere and D. Tsoumakos and N. Roussopoulos: Querying Structured Data in an Unstructured P2P System. In proceedings of the 6th ACM International Workshop on Web Information and Data Management (WIDM 2004), November 12-13, 2004, Washington, DC, USA (4 references)

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