

# Curriculum Vitae

## Personal information

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Name: Nikolaos  
Surname: Tziritas  
Gender: Male  
Birth date: 04 August 1981  
Married: Yes  
Army: Completed  
Nationality: Greek  
E-mail: nitzirit@uth.gr, ntziri@gmail.com

## Research Interests

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My research interests belong in the general area of the Parallel and Distributed Systems with special interest in performance optimization problems. Thus far my research focused on scheduling, load-balancing and replication in CDNs where data replicas are accessed from intensive tasks, energy optimizations in WSNs, as well as various optimization problems revolving around cloud computing environments. During my PhD thesis I have studied both centralized algorithms (some based on mathematical programming) and distributed algorithms for the aforementioned problems. The largest part of the evaluation was based on experimental (simulation) studies, however, during the last two years of my PhD I also focused on theoretical performance analysis for some of the distributed algorithms proposed in the WSN context. In terms of my Post-Doctoral studies, I focused on both theoretical and practical analysis for the problem of migration of virtual machines executing data- and/or compute-intensive tasks in cloud computing environments.

My current research plans include convex and non-convex analysis, competitive analysis, as well as optimal control theory for developing algorithmic solutions to optimize accessibility of interdependent data- and/or compute-intensive tasks in large-scale computing systems with extremely deep memory hierarchies. My ambitions are to establish how focusing on the intermediate data that accessed by data- and/or compute-intensive tasks can improve system design constraints, such as minimization of energy consumption, inter/intra task communication, congestion, and maximization of reliability/availability. I intend to systematically research methodologies for machine level schedulers, intra-cluster level schedulers, and inter-cluster level schedulers. Moreover, such a work will advance fundamental research within the domain of *optimization theory*, as the research directions define new classes of bin packing, knapsack, and min-cut problems, as well.

## Education

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- 2007-2011: PhD dissertation in computer Science (date of defense: 20/7/2011), Department of Computer and Communication Engineering, University of Thessaly (UTH).  
PhD title: Algorithms and system-level support for agent placement and migration in wireless sensor networks.  
Supervisor: Associate Prof. S. Lalis (lalis@inf.uth.gr)
- 2004-2006: MSc degree in computer and communication engineering, University of Thessaly.
- 2000-2004: Bachelor degree in computer science, Department of Informatics and Communications, Technical Educational Institute of Serres.

## Working Experience

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- 2020 – until now: Assistant Professor in University of Thessaly, Dept. of Computer Science and Telecommunications.
- 2016 – 2019: Associate Professor in the institute of Chinese Academy of Sciences (CAS) located in Shenzhen. **CAS is ranked 5<sup>th</sup> among the 8279 institutes all over the world** (<http://research.webometrics.info>, last access on 26/9/2019).
- 2016 – 2020: Visiting Lecturer, Dept. of Computer Science and Telecommunications, Univ. of Thessaly.
- 2013 – 2016: Postdoctoral Researcher in the institute of Chinese Academy of Sciences (CAS) located in Shenzhen.
- 2011-2012: International scientist in the institute of Chinese Academy of Sciences (CAS) located in Shenzhen.

## Participation in Research Projects

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- 2016-2018: A Holistic Approach for Minimizing Computation/Communication Consumption in Virtualized Environments (PI), Funding source: Chinese Academy of Sciences, NFSC 61550110250, 340000 RMB (€46500). The goal of the project was to develop distributed as well as centralized algorithms to reduce network load and energy consumption in cloud computing environments. Main emphasis was given (a) to virtual machine migrations and data replications to

minimize network overhead; and (b) to the virtual machine scheduling with known execution intervals to minimize energy consumption.

- 2013-2015: Energy, Data Communication-aware Computations Paradigm for Large-scale Distributed Systems (PI), Funding source: Chinese Academy of Sciences, CNS 2013FFGB0011, 310000 RMB (€42400). The aim of project was to develop algorithms for distributed systems that will perform in an autonomous way task and intermediate data scheduling, as well as resource assignment, with an emphasis on energy consumption.
- 2008-2011: Participation in the European project: POBICOS/STREP-ICT FP7 (Project manager: Spyros Lalis, lalis@inf.uth.gr).  
Description: The aim of the POBICOS project was to develop a middleware that will allow programmers to code in various abstraction levels. Among other things the middleware allowed for automatic resource discovery, effortless integration of sensing/actuating nodes on existing WSN environments, load balancing and energy saving at nodes. The programming framework followed was that of mobile agents and the whole project was implemented on top of TinyOS.  
My activities in the project included: design and implementation of agent mobility, design and development of agent migration algorithms that minimize the network communication traffic.
- 2005-2006: Participation in a Greek project: Archimhdhs 2 (project manager: Petros Lampsas, plam@inf.uth.gr).  
Description: the aim of the project was to develop algorithms for replica placement and migration in CDNs.  
My activities in the project included: design and implementation of algorithms, simulator development.
- 2003-2004: (A) Participation in a Greek project for developing a platform to support online video indexing/presentation techniques for the Olympic games coverage in Athens 2004 (project manager: Alkiviadis Tsimpiris, alkisser@gmail.com).  
My activities in the project included development of the proposed platform:.  
(B) Participation in a project for the CYTECH company (co-founder of CYTECH: Vagelis Antoniadis, vanton@cytech.gr).  
Description: The goal of this project was to develop a platform for the automation of taxi services (e.g. finding the nearest taxi to service a client).  
My activities in the project: development of the proposed platform.

2002-2003: Participation in a project for the CYTECH company (co-founder of CYTECH: Vagelis Antoniadis, vanton@cytech.gr). The goal of the project was to implement a social network.

## Teaching

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Dept. Computer Science and Telecommunications, UTH

- (PG course) Developing Secure Systems (Acad. Years 2016 – today)
- (PG course) Secure Operating Systems (Acad. Years 2017 – today)
- (UG course) System Programming (Acad. Years 2017 – today)
- (UG course) Agents and Intermediate Middleware (Acad. Years 2016-2018)
- (UG course) Intelligent Agents (Acad. Years 2019 – today)
- (UG course) Graph Theory (Acad. Years 2020 – today)
- (UG course) Databases I (Acad. Years 2020 – today)

Dept. Electrical and Computer Engineering, UTH (Teaching Assistant)

- Concurrent Programming (Acad. Years 2007 – 2010)
- Distributed Systems (Acad. Years 2008 –2011)

## Supervisions

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### **Alumni Doctoral Students**

- Tahir Maqsood (Informal co-supervision with Sajjad Madani, Professor in Comsats University in Pakistan)
- Aftab Chandio (Informal co-supervision with Cheng-Zhong Xu, Professor in University of Macau)

### **Alumni Master Students**

- Hlias Rentifis (Informal co-supervision with Spyros Lalis, Assoc. Professor in University of Thessaly)

## International Distinctions

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2016: **IEEE TCSC Award for Excellence in Scalable Computing (Early Career Researcher) by the IEEE Computer Society Technical Committee in Scalable Computing (TCSC).**

2017: Outstanding Contribution in Reviewing in Elsevier Journal of Parallel and Distributed Computing (JPDC).

2014-2019: Newsletter Editor in IEEE Technical Committee on Distributed Processing (TCDP).

#### Awards and Honors

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2008-2011: National PhD Scholarship by the Alexander S. Onassis Public Benefit Foundation in Greece.

2006: Second best performance among the MSc graduates.

2004: Best performance among the bachelor graduates.

2000-04: Annual Scholarships from the Institute of State-run Scholarships for exceptional performance during the academic years 2000-04

#### Programm Committee Member in Conferences

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2019: IEEE International Conference on Cloud Computing Technology and Science (CloudCom),  
IEEE International Symposium on Network Computing and Applications (NCA)

2018: IEEE International Conference on Cloud Computing Technology and Science (CloudCom),  
IEEE International Symposium on Network Computing and Applications (NCA)

2017: International Conference on Intelligent Networking and Collaboration Systems (INCoS)

2016: International Conference on Contemporary Computing (IC3)

2015: International Symposium on Smart MicroGrids for Sustainable Energy Sources enabled by Photonics and IoT Sensors (HONET-ICT)

2012: International Conference on P2P, Parallel, Grid, Cloud and Internet Computing (3PGCIC),  
IEEE International Conference on Cloud Computing Technology and Science (CloudCom)

## Chair in Conferences

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- 2018: General Co-Chair in IEEE International Conference on Scalable Computing and Communications
- 2017: Publication Chair in IEEE NAS (Networking, Architectures and Storages)
- 2015: Publicity Co-Chair in IIT (Innovations in Information Technology)
- 2012-2016: Publicity Co-Chair in IEEE FIT (Frontier of Information Technology)

## Editorial Boards

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2020: Guest Editor in Special Issue “Distributed Sensor Networks: Development and Applications”

## Publication Summary

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My research activity is summarized as follows:

Journals:	23
Conferences:	34
Book Chapters:	1
Total:	58

## Publication Indices

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Scholar google (18/06/2020): Citations: 896, h-index: 14, i10 index: 21.

Researchgate (18/06/2020): Citations: 701, RG score: 17.79, Reads: 15,986

## Publication List

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### **Journals**

[J23] A. A. Chandio, N. Tziritas, M. S. Chandio, C.Z. Xu, “Energy Efficient VM Scheduling Strategies for HPC Workloads in Cloud Data Centers,” *Sustainable Computing: Informatics and Systems (SUSCOM Elsevier)*, <https://doi.org/10.1016/j.suscom2019.100352>, 2019.

- [J22] K. Demertzis, **N. Tziritas**, P. Kikiras, S. L. Sanchez, L. Iliadis, “The Next Generation Cognitive Security Operations Center: Adaptive Analytic Lambda Architecture for Efficient Defense Against Adversarial Attacks,” *Big Data and Cognitive Computing (BDCC MDPI)*, vol. 3, no. 1, pp. 6-26, 2019.
- [J21] K. Demertzis, P. Kikiras, **N. Tziritas**, S. L. Sanchez, L. Iliadis, “The Next Generation Cognitive Security Operations Center: Network Flow Forensics using Cybersecurity Intelligence,” *Big Data and Cognitive Computing (BDCC MDPI)*, vol. 2, no. 4, pp. 35-41, 2018.
- [J20] **N. Tziritas**, S. U. Khan, T. Loukopoulos, S. Lalis, C.-Z. Xu, K. Li, A. Zomaya “Online Inter-Datacenter Service Migrations,” *IEEE Transactions on Cloud Computing (TCC)*, DOI: [10.1109/TCC.2017.2680439](https://doi.org/10.1109/TCC.2017.2680439)
- [J19] T. Maqsood, N. Tziritas, T. Loukopoulos, S. A. Madani, S. U. Khan, C.-Z. Xu, A. Y. Zomaya, “Energy and Communication Aware Task Mapping for MPSoCs,” *Journal of Parallel and Distributed Computing (JPDC Elsevier)*, vol. 121, pp. 71-89, 2018.
- [J18] M. Koziri, P. Papadopoulos, **N. Tziritas**, T. Loukopoulos, S. U. Khan, A. Zomaya, “Efficient Cloud Provisioning for Video Transcoding: Review, Open Challenges and Future Opportunities,” *Internet Computing (IC IEEE)*, vol. 22, no. 5, pp. 46-55, 2018.
- [J17] **N. Tziritas**, M. Koziri, A. Bachtsevani, T. Loukopoulos, S. U. Khan, G. Stamoulis, C.-Z. Xu, “Data Replication and Virtual Machine Migrations to Mitigate Network Overhead in Edge Computing Systems,” *IEEE Transactions on Sustainable Computing (TSUSC IEEE)*, vol. 2, no. 4, pp 320-332, 2017.
- [J16] T. Maqsood, **N. Tziritas**, T. Loukopoulos, S. A. Madani, S. U. Khan, C.-Z. Xu, “Leveraging on Deep Memory Hierarchies to Minimize Energy Consumption and Data Access Latency on Single-Chip Cloud Computers,” *IEEE Transactions on Sustainable Computing (TSUSC IEEE)*, vol. 2, no. 2, pp. 154-166, 2017.
- [J15] P. Oikonomou, M. Koziri, **N. Tziritas**, T. Loukopoulos, C.-Z. Xu, “Scheduling Heuristics for Live Video Transcoding on Cloud Edges,” *International Journal on ZTE Communications*, vol. 15, no. 2, pp. 35-41, 2017
- [J14] M. Koziri, P. Papadopoulos, **N. Tziritas**, A. N. Dadaliaris, T. Loukopoulos. G. I. Stamoulis, “On Planning the Adoption of New Video Standards in Social Media Networks: a General Framework and its Application to HEVC,” *Social Network Analysis and Mining (SNAM Springer)*, vol. 7, no. 1, pp. 1-16, 2017
- [J13] **N. Tziritas**, T. Loukopoulos, S. U. Khan, C.-Z. Xu, A. Zomaya “On Improving Constrained Single and Group Operator Placement Using Evictions in Big Data Environments,” *IEEE Transactions on Services Computing (TSC IEEE)*, vol. 9, no. 5, pp. 818-831, 2016

[J12] A. A. Chandio, **N. Tziritas**, F. Zhang, L. Yin, C.-Z. Xu, "Towards Adaptable and Tunable Cloud-based Map-matching Strategy for GPS Trajectories," *Frontiers of Information Technology & Electronic Engineering*, 2016.

[J11] A. Hameed, A. Khoshkbarforousha, R. Ranjan, P. P. Jayaraman, J. Kolodziej, P. Balaji, S. Zeadally, Q. M. Malluhi, **N. Tziritas**, A. Vishnu, S. U. Khan, and A. Y. Zomaya, "A Survey and Taxonomy on Energy Efficient Resource Allocation Techniques for Cloud Computing Systems," *Computing (Springer)*, vol. 98, no. 7, 2016, pp. 751-774.

[J10] **N. Tziritas**, T. Loukopoulos, S. U. Khan, C.-Z. Xu, "Distributed Algorithms for the Operator Placement Problem," *IEEE Transactions on Computational Social Systems (TCSS)*, vol. 2, no. 4, pp. 182-196, 2015

[J9] S. U. R. Malik , S. U. Khan, S. J. Ewen , **N. Tziritas**, J. Kolodziej, A. Y. Zomaya, S. A. Madani, N. Min-Allah , L. Wang, C. Xu, Q. M. Malluhi, J. E. Pecero, P. Balaji, A. Vishnu, R. Ranjan, S. Zeadally, and H. Li, "Performance Analysis of Data Intensive Cloud Systems Based On Data Management and Replication: A Survey," *Distributed and Parallel Databases (DPD Springer)*, vol. 34, no. 2, 2015, pp. 179-215.

[J8] A. A. Chandio, **N. Tziritas**, C.-Z. Xu, "Big-Data Processing Techniques and Their Challenges in Transport Domain," *International Journal on ZTE communications*, vol. 13, no. 1, pp. 50-59, 2015.

[J7] R. Irfan, C. K. King, D. Grages, S. Ewen, S. U. Khan, S. A. Madani, J. Kolodziej, L. Wang, D. Chen, A. Rayes, **N. Tziritas**, C.-Z. Xu, A. Y. Zomaya, A. S. Alzahrani, and H. Li, "A Survey on Text Mining in Social Networks," *Knowledge Engineering Review (KER Cambridge University Press)*, vol. 30, no. 2, pp. 157-170, 2015.

[J6] A. A. Chandio, K. Bilal, **N. Tziritas**, Z. Yu, Q. Jiang, S. U. Khan, and C.-Z. Xu, "A Comparative Study on Resource Allocation and Energy Efficient Job Scheduling Strategies in Large-Scale Parallel Computing Systems," *Cluster Computing (Springer)*, vol. 17, no. 4, pp. 1349-1367, 2014.

[J5] M. B. Qureshi, M. M. Dehnavi, N. Min-Allah, M. S. Qureshi, H. Hussain, I. Rentifis, **N. Tziritas**, T. Loukopoulos, S. U. Khan, C.-Z. Xu, A. Y. Zomaya, "Survey on Grid Resource Allocation Mechanisms," *Journal of Grid Computing (JGC Springer)*, vol. 12, no. 2, pp. 399-441, 2014.

[J4] **N. Tziritas**, S. U. Khan, T. Loukopoulos, S. Lalis, C.-Z. Xu, P. Lampsas, "Single and Group Agent Migration: Algorithms, Bounds, and Optimality Issues," *IEEE Transactions on Computers (TC IEEE)*, vol. 63, no. 12, pp. 3143-3161, 2014.

[J3] **N. Tziritas**, S. U. Khan, C.-Z. Xu, T. Loukopoulos, S. Lalis, "On Minimizing the Resource Consumption of Cloud Applications Using Process Migrations," *Elsevier Journal of Parallel and Distributed Computing (JPDC Elsevier)*, vol. 73, no. 12, pp. 1690-1704, 2013.



[J2] **N. Tziritas**, S. Lalis, S. U. Khan, T. Loukopoulos, C.-Z. Xu, P. Lampsas, “Distributed Online Algorithms for the Agent Migration Problem in WSNs,” *Mobile Networks and Applications (MONET ACM/Springer)*, vol. 18, no. 5, pp. 622-638, 2013.

[J1] **N. Tziritas**, T. Loukopoulos, S. Lalis and P. Lampsas, “Algorithms for energy-driven agent placement in wireless embedded systems with memory constraints,” *Simulation Modelling Practice and Theory (SIMPAT Elsevier)*, vol. 19, no. 6, pp. 1445-1464, 2011.

### Conferences with Reviewers

[C34] S. Chen, M. Hanai, Z. Hua, **N. Tziritas**, G. Theodoropoulos, “Efficient Direct Agent Interaction in Optimistic Distributed Multi-Agent-System Simulations,” in *ACM SIGSIM Conference on Principles of Advanced Discrete Simulation (SIGSIM PADS)*, Florida, USA, June 2020.

[C33] K. Demertzis, L. S. Iliadis, P. Kikiras, **N. Tziritas**, “Cyber-Typhon: An Online Multi-task Anomaly Detection Framework,” in *15<sup>th</sup> International Conference on Artificial Intelligence and Innovations (AIAI)*, Crete, Greece, pp. 19-36, May 2019.

[C32] N. Panagou, M. Koziri, P. K. Papadopoulos, P. Oikonomou, **N. Tziritas**, K. Kolomvatsos, T. Loukopoulos, S. U. Khan, “Evaluation of Heterogeneous Scheduling Algorithms for Wavefront and Tile Parallelism in Video Coding,” in *3<sup>rd</sup> International Conference on Internet of Things (ICIOT)*, San Diego, USA, pp. 16-27, July 2019.

[C31] **N. Tziritas**, T. Loukopoulos, S. U. Khan, C. Z. Xu, A. Y. Zomaya, “Online Live VM Migration Algorithms to Minimize Total Migration Time and Downtime,” in *32<sup>nd</sup> International Parallel and Distributed Processing Symposium (IPDPS)*, IEEE, Rio de Janeiro, Brazil, pp. 406-417, May 2019.

[C30] T. Loukopoulos, **N. Tziritas**, M. Koziri, G. Stamoulis, S. U. Khan, “A Pareto-Efficient Algorithm for Data Stream Processing at Network Edges,” in *10<sup>th</sup> International Conference on Cloud Computing Technology and Science (CloudCom)*, IEEE, Nicosia, Cyprus, pp. 159-162, Dec. 2018.

[C29] **N. Tziritas**, S. Mustafa, M. Koziri, T. Loukopoulos, S. U. Khan, C.-Z. Xu, A. Y. Zomaya, “Server Consolidation in Cloud Computing,” in *24<sup>th</sup> International Conference on Parallel and Distributed Systems (ICPADS)*, IEEE, Singapore, pp. 194-203, Dec. 2018.

[C28] **N. Tziritas**, T. Loukopoulos, S. U. Khan, C.-Z. Xu, A. Zomaya, “A Communication-Aware Energy-Efficient Graph-Coloring Algorithm for VM Placement in Clouds,” in *18<sup>th</sup> International Conference on Scalable Computing and Communications (ScalCom)*, IEEE, Guangzhou, China, pp. 1684-1691, Oct. 2018.

- [C27] P. Oikonomou, M. Koziri, **N. Tziritas**, A. Dadaliaris, T. Loukopoulos, G. Stamoulis, S. U. Khan, "Scheduling Video Transcoding Jobs in the Cloud," in *14<sup>th</sup> International Conference on Green Computing (GreenCom)*, IEEE, Halifax, Canada, pp. 442-449, July 2018.
- [C26] T. Loukopoulos, **N. Tziritas**, M. Koziri, G. Stamoulis, S. U. Khan, C.-Z. Xu, A. Y. Zomaya, "Data Stream Processing at Network Edges," in *32<sup>nd</sup> International Parallel and Distributed Processing Symposium Workshops (IPDPSW)*, IEEE, Vancouver, Canada, pp. 657-665, May 2018.
- [C25] D. Skoumpourdis, P. Papadopoulos, M. Koziri, **N. Tziritas**, T. Loukopoulos, I. Anagnostopoulos, "On Improving the Speedup of Slice and Tile Level Parallelism in HEVC Using AVX2," in *21<sup>st</sup> Panhellenic Conference on Informatics (PCI)*, ACM, Larisa, Greece, pp. 52-57, Dec. 2017
- [C24] M. Koziri, P. Papadopoulos, **N. Tziritas**, T. Loukopoulos, S. U. Khan, G. Stamoulis, "Heuristics for Tile Parallelism in HEVC," in *25<sup>th</sup> European Signal Processing Conference (EUSIPCO)*, Kos, Greece, pp. 1514-1518, Aug. 2017
- [C23] M. Qasim, T. I. Bhati, E. Munir, **N. Tziritas**, S. U. Khan, L. T. Yang, "Dynamic Mapping of Application Workflow in Heterogeneous Computing Environment," in *31<sup>st</sup> International Parallel and Distributed Processing Symposium Workshops (IPDPSW)*, IEEE, pp. 462-471, May 2017.
- [C22] M. Koziri, P. Papadopoulos, **N. Tziritas**, A. Dadaliaris, T. Loukopoulos, S. U. Khan, C.-Z. Xu, "Adaptive Tile Parallelization for Fast Video Encoding in HEVC," in *12<sup>th</sup> International Conference on Green Computing and Communications (GreenCom)*, IEEE, Chengdu, China, pp. 738-743, Dec. 2016.
- [C21] P. Papadopoulos, M. Koziri, **N. Tziritas**, T. Loukopoulos, I. Anagnostopoulos, G. Stamoulis, "Performance Evaluation of Batch Encodings in HEVC Using Slice Level Parallelism," in *20<sup>th</sup> Panhellenic Conference on Informatics (PCI)*, ACM, Patra, Greece, pp. 70-75, Nov. 2016.
- [C20] A. Roukh, L. Belatreche, **N. Tziritas**, C. Ordonez, "Energy-Aware Processing on Parallel Database Cluster Nodes," in *16th International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP)*, Springer, Granada, Spain, pp. 260-269, Dec. 2016.
- [C19] M. Koziri, P. Papadopoulos, **N. Tziritas**, A. Dadaliaris, T. Loukopoulos, G. Stamoulis, "A Framework for Scheduling the Encoding of Multiple Smart User Videos," in *11th IEEE International Workshop on Semantic and Social Media Adaptation and Personalization (SMAP)*, IEEE, Thessaloniki, Greece, pp. 29-34, Oct. 2016.
- [C18] M. Koziri, P. Papadopoulos, **N. Tziritas**, A. Dadaliaris, T. Loukopoulos, S. U. Khan, "Slice-Based Parallelization in HEVC Encoding: Realizing the Potential through

Efficient Load Balancing," in *18th Workshop on Multimedia Signal Processing (MMSP)*, IEEE, Montreal, Canada, pp. 1-6, Sep. 2016.

[C17] S. Mustafa, K. Bilal, S. A. Madani, **N. Tziritas**, S. U. Khan, and L. T. Yang, "Performance Evaluation of Energy-aware Best Fit Decreasing Algorithms for Cloud Environments," in *11th International Conference on Data Science and Data Intensive Systems (DSDIS)*, IEEE Sydney, Australia, Dec. 2015.

[C16] **N. Tziritas**, T. Loukopoulos, S. Lalis, S. U. Khan, and C.-Z. Xu, "Coordination Strategies for Agent Migrations in Wireless Sensor Networks," in *21st International conference on Parallel and Distributed Systems (ICPADS)*, IEEE, Melbourne, pp. 198-206, Dec. 2015.

[C15] A. A. Chandio, **N. Tziritas**, D. Zhang, C.-Z. Xu, "An Approach for Map-Matching Strategy of GPS-trajectories based on the Locality of Road Networks," in *2nd International conference on Internet of Vehicles (IOV)*, Springer, Chengdu, China, pp. 234-246, Dec. 2015.

[C14] P. Papadopoulos, T. Loukopoulos, I. Anagnostopoulos, **N. Tziritas**, M. Vasilakopoulos, "RAC: A Remote Application Calling Framework for Coordination of Mobile Apps," in *19th Panhellenic Conference on Informatics (PCI)*, ACM, Athens, Greece, pp. 394-399, Oct. 2015.

[C13] **N. Tziritas**, C.-Z. Xu, T. Loukopoulos, S. U. Khan, , Z. Yu, "Application-aware Workload Consolidation to Minimize both Energy Consumption and Network Load in Cloud Environments", in *42nd International Conference on Parallel Processing (ICPP)*, IEEE, Lyon, France, pp. 449-457, Oct. 2013.

[C12] A. A. Chandio, C.-Z. Xu, **N. Tziritas**, K. Bilal, S. U. Khan, "A Comparative Study of Scheduling Strategies in Large-scale Parallel Computational Systems," in *11th International Symposium on Parallel and Distributed Processing with Applications (ISPA)*, IEEE, Melbourne, Australia, pp. 949-957, July 2013.

[C11] I. Rentifis, **N. Tziritas**, S. Lalis, P. Lampsas, T. Loukopoulos, "Improving Application Availability in Wireless Sensor Networks with Energy-Harvesting Capability," in *13th International Conference on Parallel and Distributed Computing, Applications and Technologies (PDCAT)*, IEEE, Beijing, China, pp. 122-127, Dec. 2012.

[C10] **N. Tziritas**, S. U. Khan, C.-Z. Xu, J. Hong, "An Optimal Fully Distributed Algorithm to Minimize the Resource Consumption of Cloud Applications", in *18th International Conference on Parallel and Distributed Systems (ICPADS)*, IEEE, Singapore, pp. 61-68, Dec. 2012.

[C9] **N. Tziritas**, G. Georgakoudis, S. Lalis, T. Paczesny, J. Domaszewicz, P. Lampsas, T. Loukopoulos, "Middleware Mechanisms for Agent Mobility in Wireless Sensor and

Actuator Networks,” in *4<sup>th</sup> International Conference on Sensor Systems and Software (S-CUBE)*, Springer, Lisbon, Portugal, pp. 30-44, June 2012.

[C8] **N. Tziritas**, P. Lampsas, S. Lalis, T. Loukopoulos, S.U. Khan, C.-Z. Xu, “Introducing Agent Evictions to Improve Application Placement in Wireless Distributed Systems”, in *41<sup>st</sup> International Conference on Parallel Processing (ICPP)*, IEEE, Pittsburgh, USA, pp. 480-489, Sep. 2012.

[C7] **N. Tziritas**, T. Loukopoulos, S. Lalis and P. Lampsas, “GRAL: A Grouping Algorithm to Optimize Application Placement in Wireless Embedded Systems,” in *25<sup>th</sup> IEEE International Parallel and Distributed Processing Symposium (IPDPS)*, IEEE, Anchorage, USA, pp. 734-745, May 2011.

[C6] **N. Tziritas**, T. Loukopoulos, S. Lalis and P. Lampsas, “On Deploying Tree Structured Agent Applications in Networked Embedded Systems,” in *16<sup>th</sup> International Euro-Par Conference (EUROPAR)*, Springer, Ischia, Italy pp. 490-502, Sep. 2010.

[C5] **N. Tziritas**, T. Loukopoulos, S. Lalis and P. Lampsas, “Agent Placement in Wireless Embedded Systems: Memory Space and Energy Optimizations,” in *25<sup>th</sup> IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW)*, April 2010.

[C4] **N. Tziritas**, T. Loukopoulos, P. Lampsas and S. Lalis, “Using Multicast Transfers in the Replica Migration Problem: Formulation and Scheduling Heuristics,” in *15<sup>th</sup> International Euro-Par Conference (EUROPAR)*, Springer, Delft, Netherlands, pp. 228-240, Aug. 2009.

[C3] **N. Tziritas**, T. Loukopoulos, P. Lampsas and S. Lalis, “Formal model and scheduling heuristics for the replica migration problem,” in *14<sup>th</sup> International Euro-Par Conference (EUROPAR)*, Springer, Las Palmas, Spain, pp. 305-314, Aug. 2008.

[C2] T. Loukopoulos, **N.Tziritas**, P. Lampsas and S. Lalis, “Implementing Replica Placements: Feasibility and Cost Minimization,” in *21<sup>st</sup> International Parallel and Distributed Processing Symposium (IPDPS)*, IEEE, Long Beach, USA, pp. 1-10, March 2007.

[C1] T. Loukopoulos, **N. Tziritas**, P. Lampsas and S. Lalis, “Investigating the Replica Transfer Scheduling Problem,” in *18<sup>th</sup> International Conference on Parallel and Distributed Computing Systems (PDCS)*, Dallas, USA, Sep., 2006.

### **Book Chapters**

[BC1] **N. Tziritas**, S.U. Khan, and T. Loukopoulos, Chapter 11: On Reconfiguring Embedded Application Placement on Smart Sensing and Actuating Environments, *Intelligent Decision Systems in Large-Scale Distributed Environments Series: Studies in Computational Intelligence*, Springer, vol. 362, pp. 231-250, 2011, ISBN 978-3-642-21270-3.

## Letter of recommendation

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1. Dr. Albert Zomaya  
Chair Professor,  
School of Information Technologies, Building J12  
The University of Sydney,  
Sydney, NSW 2006,  
Australia  
Tel. +61 293.516.442  
Email: albert.zomaya@sydney.edu.au
  
2. Dr. Samee U. Khan  
Professor,  
Dept of Electrical and Computer Engineering,  
North Dakota State University,  
Fargo, ND 58108-6050,  
Tel. +01 701.231.7615  
Email: samee.khan@ndsu.edu
  
3. Dr. Spyros Lalis  
Associate Professor  
Dept. of Computer and Communication engineering, University of Thessaly  
Glavani 37,  
Deligiorgis building, 4<sup>th</sup> floor,  
Volos, Greece  
Tel: +30 24210 74978  
Email: lalis@inf.uth.gr