# CHRISTINE MARKARIAN

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## PERSONAL INFORMATION, LANGUAGES & OBJECTIVE

**Date of birth** December 21, 1986
**Languages** English, Arabic, Armenian, German, French

**Objective**
Researcher in Computer Science (in the field of): Algorithms & Complexity, Combinatorial Optimization, Online Algorithms, Distributed Computing, Graph Theory (with applications in): Wireless Networks, Operation Research, Cloud Computing, Scheduling

## EDUCATION

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|---|---|---|
| **Ph.D. Computer Science** | University of Paderborn, Paderborn, Germany | *2012 - 2015* |
| **M.S. Computer Science** | Lebanese American University, Beirut, Lebanon | *2009 - 2011* |
| **B.S. Mathematics** | Haigazian University, Beirut, Lebanon | *2005 - 2008* |
| **Bacc. II Life Sciences** | BESGB, Rabiya, Lebanon | *1992 - 2004* |

## EXPERIENCE

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|---|---|---|
| **Assistant Professor** | Haigazian University, Beirut, Lebanon | *Sept 2018 - Present* |
| **Part-time Faculty** | Lebanese American University, Beirut, Lebanon | *Sept 2018 - Present* |
| **Post-doc Researcher** | University of Paderborn, Paderborn, Germany | *Jan 2017 - Aug 2018* |
| **Part-time Faculty** | Notre Dame University, Zouk, Lebanon | *Fall 2016* |
| **Assistant Professor** | Haigazian University, Beirut, Lebanon | *Sept 2015 - Aug 2016* |
| **Research & Teaching Assistant** | Lebanese American University, Lebanon | *2009 - 2011* |
| **Math Teacher (Grades 7 & 8)** | BESGB, Rabiya, Lebanon | *2009 - 2011* |

## AWARDS

**World Gtalks** American University of Beirut, presentation link:
https://www.youtube.com/watch?v=KgMKwi98uUY (*June 10, 2019* )
**Ph.D. Studentship** International Graduate School (Dynamic Intelligent Systems), University of Paderborn, Germany (*2012 - 2015*)
**100 % M.S. Graduate Assistantship** Lebanese American University, Lebanon (*2009 - 2011*)
**Dean's List** Haigazian University, Lebanon (*2007 - 2008*)

## COURSES

**Courses Attended:**

**Ph.D.** Swarm Intelligence, Routing & Data Management, Machine Learning, Randomized Algorithms

**M.S.** Design & Analysis of Algorithms, Object-Oriented Software Engineering, Heuristic Optimization, Parallel Algorithms & Programming, Distributed Systems, Algorithmic Graph Theory, Software Quality Assurance, Pervasive Computing & Wireless Networks

**B.S.** Linear Algebra, Differential Equations, Probability and Statistics, Numerical Analysis, Advanced Calculus, Number Theory, Abstract Algebra I & II, Topology, Vector Analysis, Complex Variables, Discrete Structures, Advanced Computer Programming, Design and Analysis of Algorithms

**Courses Taught:**

**University of Paderborn** (MS level) Online Algorithms
**Haigazian University** Design & Analysis of Algorithms, Data Transmission & Computer Networks, Introduction to Computers & Programming, Software Engineering, Calculus, Statistics
**Notre Dame University** (MS level) Advanced Analysis of Algorithms
**Lebanese American University** Computer Applications, Computer Networks, Information Technology Management

## WORKSHOPS/PROPOSALS

**PHC Cedre project:** Funding Proposal submitted in Summer 2017
**Trends in Online Algorithms (TOLA):** IT University of Copenhagen, Coppenhagen (2014)
**Management with Case Studies:** Institute for Business Administration, Germany (2013)
**High Performance Computing:** PRACE/LinkSceem-2 Programming School, Cyprus (2011)

## REVIEWER

Journal of Theoretical Computer Science (TCS 2014, 2017)
Symposium on Parallelism in Algorithms and Architectures (SPAA 2017)
International Conference on Intelligent Robots and Systems (IROS 2017)
Swarm Intelligence Journal (SI 2017)
International Symposium on Mathematical Foundations of Computer Science (MFCS 2015)
Algorithms and Data Structures Symposium (WADS 2015)
Annual ACM Symposium on Principles of Distributed Computing (PODC 2015)
International Colloquium on Structural Information and Communication Complexity (SIROCCO 2014)
Conference on Algorithms & Complexity (CIAC 2013)

## REFERENCES

**Prof. Dr. Friedhelm Meyer auf der Heide** (supervisor of Ph.D. thesis)
Heinz Nixdorf Institute & Department of Computer Science, University of Paderborn, Fürstenallee 11, 33102 Paderborn, Germany
+49 5251606480, fmadh@upb.de

**Prof. Dr. Christian Scheideler**
Department of Computer Science, University of Paderborn, Fürstenallee 11, 33102 Paderborn, Germany
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**Prof. Dr. Faisal Abu-khzam** (supervisor of Master's thesis)
Department of Computer Science & Mathematics, Lebanese American University, Beirut, Lebanon
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**Prof. Dr. Abdul-Nasser Kassar**
Department of Information Technology and Operations Management, Lebanese American University, Beirut, Lebanon
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## PUBLICATIONS

1. **(journal)** Faisal N. Abu-Khzam, Shouwei Li, Christine Markarian, Friedhelm Meyer auf der Heide, and Pavel Podlipyan. Efficient Parallel Algorithms for Parameterized Problems. Theoretical Computer Science 786: 2-12 (2019)
2. **(journal)** Shouwei Li, Christine Markarian, Friedhelm Meyer auf der Heide, and Pavel Podlipyan. A Continuous Strategy for Collisionless Gathering. (to appear in) Theoretical Computer Science.
3. Christine Markarian. Online Leasing Vertex Cover and Non-metric Facility Location. (to appear in) International Conference on Operations Research and Enterprise Systems (ICORES): 315-321, 2019
4. Christine Markarian. An Optimal Algorithm for Online Prize-collecting Node-weighted Steiner Forest. International Workshop on Combinatorial Algorithms (IWOCA): 214-223, 2018
5. Heiko Hamann, Christine Markarian, Friedhelm Meyer auf der Heide, and Mostafa Wahby. Pick, Pack, & Survive: Charging Robots in a Modern Warehouse based on Online Connected Dominating Sets. Fun with Algorithms (FUN): 22:1-22:13, 2018
6. **(journal)** Shouwei Li, Christine Markarian, Friedhelm Meyer auf der Heide. Towards Flexible Demands in Online Leasing Problems. Algorithmica 80(5): 1556-1574 (2018)
7. **(journal)** Faisal N. Abu-Khzam, Christine Markarian, Friedhelm Meyer auf der Heide, and Michael Schubert. Approximation and Heuristic Algorithms for Computing Backbones in Asymmetric Ad-hoc networks. Theory of Computing Systems https://doi.org/10.1007/s00224-017-9836-z (2018)
8. Christine Markarian. Leasing with Uncertainty. Operations Research (OR): 429-434, 2017
9. Shouwei Li, Christine Markarian, Friedhelm Meyer auf der Heide, and Pavel Podlipyan. A Continuous Strategy for Collisionless Gathering. Algorithms for Sensor Systems (ALGOSENSORS): 182-197, 2017
10. Bjorn Feldkord, Christine Markarian, and Friedhelm Meyer auf der Heide. Price Fluctuation in Online Leasing. International Conference on Combinatorial Optimization and Applications (COCOA): 17-31, 2017
11. Faisal N. Abu-Khzam, Shouwei Li, Christine Markarian, Friedhelm Meyer auf der Heide, and Pavel Podlipyan. Modular-Width: An Auxiliary Parameter for Parameterized Parallel Complexity. Frontiers in Algorithmics (FAW): 139-150, 2017
12. Yara Khaluf, Christine Markarian, Pieter Simoens, and Andreagiovanni Reina. Scheduling Access to Shared Space in Multi-robot Systems. Advances in Practical Applications of Cyber-Physical Multi-Agent Systems (PAAMS): 144-156, 2017
13. Faisal N. Abu-Khzam, Shouwei Li, Christine Markarian, Friedhelm Meyer auf der Heide, and Pavel Podlipyan. The Monotone Circuit Value Problem with Bounded Genus Is in NC. Computing and Combinatorics (COCOON): 92-102, 2017
14. Faisal N. Abu-Khzam, Shouwei Li, Christine Markarian, Friedhelm Meyer auf der Heide, and Pavel Podlipyan. On the Parameterized Parallel Complexity and the Vertex Cover Problem. Combinatorial Optimization and Applications (COCOA): 477-488, 2016.
15. **(journal)** Sebastian Abshoff, Peter Kling, Christine Markarian, Friedhelm Meyer auf der Heide, and Peter Pietrzyk. Towards the Price of Leasing Online. Journal of Combinatorial Optimization 32(4): 1197-1216 (2016)
16. Christine Markarian and Friedhelm Meyer auf der Heide. Online Resource Leasing. Symposium on Principles of Distributed Computing (PODC): 343-344, 2015
17. Shouwei Li, Alexander Mäcker, Christine Markarian, Friedhelm Meyer auf der Heide, and Sören Riechers. Towards Flexible Demands in Online Leasing Problems. Computing and Combinatorics (COCOON): 277-288, 2015

18. Sebastian Abshoff, Christine Markarian, and Friedhelm Meyer auf der Heide. Randomized Online Algorithms for Set Cover Leasing Problems. Combinatorial Optimization and Applications (COCOA): 25-34, 2014

19. Sebastian Kniesburges, Christine Markarian, Friedhelm Meyer auf der Heide, and Christian Scheideler. Algorithmic Aspects of Resource Management in the Cloud. Structural Information and Communication Complexity (SIROCCO): 1-13, 2014

20. Christine Markarian, Friedhelm Meyer auf der Heide, and Michael Schubert. A Distributed Approximation Algorithm for Strongly Connected Dominating-Absorbent Sets in Asymmetric Wireless Ad-hoc Networks. Algorithms for Sensor Systems (ALGOSENSORS): 217-227, 2013

21. Faisal N. Abukhzam and Christine Markarian. A Degree-based Heuristic for Strongly Connected Dominating-Absorbent sets in Wireless Ad-hoc Networks. Innovations in Information Technology (IIT), 2012