

# Aggeliki Chalki, Ph.D. student

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## Education

- 2015 – today **Ph.D. in Computer Science**, National Technical University of Athens  
Title: *Structural and descriptive complexity of hard counting problems with easy decision version.*  
Advisor: Prof. Aristeidis Pagourtzis
- 2012 – 2015 **M.Sc. in Computer Science**, National and Kapodistrian University of Athens  
Thesis title: *Counting below #P: Classes, problems and Descriptive Complexity.*  
Advisor: Prof. Aristeidis Pagourtzis
- Spring Semester 2009 **Erasmus Exchange Program**, King's College London  
Courses in Mathematics and Computer Science
- 2005 – 2012 **M.Sc. in Applied Mathematics and Physics**, National Technical University of Athens  
Thesis title: *The Axiom Z=L in ZFC*  
Advisor: Prof. Alexander Arvanitakis

## Employment History

- 2015 – today **Teaching assistant in NTUA, School of Electrical and Computer Engineering.**  
I assisted in the following courses: Computer Programming, Foundations of Computer Science, Algorithms & Complexity, Automata & Computational Models, **Computational Complexity (graduate course)**, **Advanced Topics in Algorithms & Complexity (graduate course)**, Network Algorithms & Complexity (graduate course), Mathematical Logic (graduate course), **Advanced Topics in Logic (3 different graduate courses)**, **Counting Complexity (graduate course)**.
- 2020 – 2021 **Math teacher in a public secondary school.**
- 2018 – 2020 **Private Math Tutor at "Alma Mater" private tutoring center.**
- 2010 – 2018 **Self-employed private tutor for Math and Computer Science courses** including IB preparation.

## Research Publications

- 1 Antonopoulos, A., Bakali, E., Chalki, A., Pagourtzis, A., Pantavos, P., & Zachos, S. (2022). Completeness, approximability and exponential time results for counting problems with easy decision version. *Theoretical Computer Science*, 915, 55–73. doi:<https://doi.org/10.1016/j.tcs.2022.02.030>
- 2 Bakali, E., Chalki, A., Göbel, A., Pagourtzis, A., & Zachos, S. (2022). Guest column: A panorama of counting problems the decision version of which is in P. *SIGACT News*, 53(3), 46–68. doi:[10.1145/3561064.3561072](https://doi.org/10.1145/3561064.3561072)
- 3 Chalki, A., Koutras, C. D., & Zikos, Y. (2021). A note on the complexity of  $S_{4,2}$ . *Journal of Applied Non-Classical Logics*, 31(2), 108–129. doi:[10.1080/11663081.2021.1901560](https://doi.org/10.1080/11663081.2021.1901560)

- 4 Bakali, E., Chalki, A., & Pagourtzis, A. (2020). Characterizations and approximability of hard counting classes below #P). In *Theory and Applications of Models of Computation, 16th International Conference, TAMC 2020, Changsha, China, October 18-20, 2020, Proceedings* (Vol. 12337, pp. 251–262).  
[doi:10.1007/978-3-030-59267-7\\\_22](https://doi.org/10.1007/978-3-030-59267-7\_22)
- 5 Chalki, A., Koutras, C. D., & Zikos, Y. (2018). A quick guided tour to the modal logic  $S4.2$ . *Logic Journal of the IGPL*, 26(4), 429–451. [doi:10.1093/jigpal/jzy008](https://doi.org/10.1093/jigpal/jzy008)
- 6 Bakali, E., Chalki, A., Pagourtzis, A., Pantavos, P., & Zachos, S. (2017). Completeness results for counting problems with easy decision. In *Algorithms and Complexity - 10th International Conference, CIAC 2017, Athens, Greece, May 24-26, 2017, Proceedings* (Vol. 10236, pp. 55–66).  
[doi:10.1007/978-3-319-57586-5\\\_6](https://doi.org/10.1007/978-3-319-57586-5\_6)

## Talks

- ▀ Descriptive complexity of hard counting problems the decision version of which is easy, *17th Athens Colloquium on Algorithms and Complexity (ACAC'22)*.
- ▀ Descriptive complexity for hard counting problems with easy decision versions, *Logic Colloquium (LC'22)*.
- ▀ Characterizations and approximability of hard counting classes below #P, *The New York Colloquium on Algorithms and Complexity (NYCAC 2021)*.
- ▀ Characterizations and approximability of hard counting classes below #P, *Young Researchers' Forum, 23rd International Symposium on Fundamentals of Computation Theory (FCT 2021)*.
- ▀ Characterizations and approximability of hard counting classes below #P, *The 16th Annual Conference on Theory and Applications of Models of Computation (TAMC 2020)*.
- ▀ Descriptive complexity of classes of easy-to-decide counting problems, *20th International Workshop on Logic and Computational Complexity (LCC'19)*.

## Skills

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| Languages | ▀ Strong reading, writing and speaking competencies for English and Greek. |
| Coding    | ▀ Java, C++, $\LaTeX$ , MATLAB, Mathematica                                |
| Web Dev   | ▀ HTML   |
| Misc.     | ▀ Academic research, teaching, $\LaTeX$ typesetting and publishing.        |

## Miscellaneous Experience

### Awards

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| 2005–2007 | ▀ <b>Award</b> for Excellence in undergraduate studies, <i>Latsis Public Benefit Foundation</i> . |
| 2005      | ▀ <b>Award</b> for Excellence in University entry exams, <i>Eurobank</i> .                        |

### Grants

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| 2020 | ▀ <b>Basic research program</b> PEVE 2020. |
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## Other interestings

- ▀ Aikido, Chess arbiter