

# GIANNOS STAMOULIS

## Experience and Studies

### Postdoctoral researcher

January 2024 - now

Institute of Informatics, University of Warsaw, Poland  
ERC project BOBR led by Michał Pilipczuk

### PhD Studies

October 2020 - September 2023

Laboratoire d'Informatique, de Robotique et de Microélectronique de Montpellier (LIRMM)  
Université de Montpellier, CNRS, Montpellier, France

PhD thesis: *Logics and Algorithms for Graph Minors*  
Advisors: Ignasi Sau and Dimitrios Thilikos

Defence date: 12/12/2023

### Master Studies in Theoretical Computer Science and Mathematics

October 2017 - February 2020

Inter-Institutional Graduate Program “Algorithms, Logic, & Discrete Mathematics”  
National and Kapodistrian University of Athens & National Technical University of Athens, Greece  
GPA: 9.33/10. Ranked *first* in his graduating class  
Master Thesis: *Decompositions and Algorithms for the Disjoint Paths Problem in Planar Graphs*  
Advisor: Stavros G. Kolliopoulos.

### Bachelor in Mathematics

October 2013 - September 2017

Department of Mathematics, National and Kapodistrian University of Athens, Greece  
GPA: 8.34/10. Ranked in top 10% of graduating class.

## Research visits

Cambridge Logical Structures Hub (*hosted by Anuj Dawar*)  
Department of Computer Science and Technology, University of Cambridge, United Kingdom

**April 2023**  
(4 weeks)

Algorithms Group (*hosted by Michał Pilipczuk*)  
Institute of Informatics, University of Warsaw, Poland

**March 2023**  
(4 weeks)

Discrete Mathematics Group (*hosted by Sang-il Oum*)  
Institute for Basic Science, Daejeon, Republic of Korea.

**December 2022**  
(4 weeks)

AG Theoretische Informatik group (*hosted by Sebastian Siebertz*)  
Faculty 3 - Mathematics and Computer Science, University of Bremen, Germany

**October 2022**  
(1 week)

Algorithms Research Group (*hosted by Fedor V. Fomin*)  
Department of Informatics, University of Bergen, Norway.

**September 2021**  
(2 weeks)

AlGCo team (*hosted by Ignasi Sau*)  
LIRMM, Montpellier, France

**November 2019**  
(2 weeks)

AlGCo team (*hosted by Ignasi Sau*)  
LIRMM, Montpellier, France

**September 2019**  
(2 weeks)

# Publications

## International peer-reviewed journals

- (1) **A more accurate view of the Flat Wall Theorem**  
With Ignasi Sau and Dimitrios M. Thilikos *Journal of Graph Theory* (accepted)
- (2) **Branchwidth is  $(1, g)$ -self-dual**  
With G. Kontogeorgiou, A. Leivaditis, K. I. Psaromiligkos, and D. Zoros *Discrete Applied Mathematics*, 2024
- (3) **Shortest Cycles With Monotone Submodular Costs**  
With F. V. Fomin, P. A. Golovach, T. Korhonen, and D. Lokshstanov *ACM Transactions of Algorithms*, 2023
- (4) **Combing a Linkage in an Annulus**  
With Petr A. Golovach and Dimitrios M. Thilikos *SIAM Journal on Discrete Mathematics*, 2023
- (5)  **$k$ -apices of minor-closed graph classes. I. Bounding the obstructions**  
With Ignasi Sau and Dimitrios M. Thilikos *Journal of Combinatorial Theory, Series B*, 2023
- (6) **Hitting Topological Minor Models in Planar Graphs is Fixed Parameter Tractable**  
With Petr A. Golovach and Dimitrios M. Thilikos *ACM Transactions of Algorithms*, 2023
- (7)  **$k$ -apices of minor-closed graph classes. II. Parameterized algorithms**  
With Ignasi Sau and Dimitrios M. Thilikos. *ACM Transactions of Algorithms*, 2022
- (8) **An Algorithmic Meta-theorem for graph modification to Planarity and FOL**  
With F. V. Fomin, P. A. Golovach, and D. M. Thilikos *ACM Transactions on Computation Theory*, 2022
- (9) **Block Elimination Distance**  
With Ö. Y. Diner, A. C. Giannopoulou, and D. M. Thilikos *Graphs and Combinatorics*, 2022
- (10) **Minor-Obstructions for Apex Sub-unicyclic Graphs.**  
With A. Leivaditis, A. Singh, D. M. Thilikos, K. Tsatsanis, and V. Velona *Discrete Applied Mathematics*, 2020.
- (11) **Minor-Obstructions for Apex-Pseudoforests**  
With A. Leivaditis, A. Singh, D. M. Thilikos, and K. Tsatsanis *Discrete Mathematics*, 2021

## International peer-reviewed conferences

- (12) **Elementary first-order model checking on sparse classes**  
With Jakub Gajarský, Michał Pilipczuk, Marek Sokolowski, and Szymon Toruńczyk **LICS** 2024
- (13) **Model Checking Disjoint-Paths Logic on Topological-Minor-Free Graph Classes**  
With Nicole Schirrmacher, Sebastian Siebertz, Dimitrios M. Thilikos, and Alexandre Vigny **LICS** 2024
- (14) **Compound logics for modification problems**  
With Fedor V. Fomin, Petr A. Golovach, Ignasi Sau, and Dimitrios M. Thilikos **ICALP** 2023
- (15) **Faster parameterized algorithms for modification problems to minor-closed classes**  
With Laure Morelle, Ignasi Sau, and Dimitrios M. Thilikos **ICALP** 2023
- (16) **Model-Checking for First-Order Logic with Disjoint Paths Predicates in Proper Minor-Closed Graph Classes**  
With Petr A. Golovach and Dimitrios M. Thilikos **SODA** 2023
- (17) **Fixed-Parameter Tractability of Maximum Colored Path and Beyond**  
With Fedor V. Fomin, Petr A. Golovach, Tuukka Korhonen, and Kirill Simonov **SODA** 2023
- (18) **Computing paths of large rank in planar frameworks deterministically**  
With Fedor V. Fomin, Petr A. Golovach, and Tuukka Korhonen **ISAAC** 2023

## Conference versions of papers published in journals

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- (i) **Shortest Cycles With Monotone Submodular Costs**  
With *F. V. Fomin, P. A. Golovach, T. Korhonen, and D. Lokshtanov*  
Conference version of (3) SODA 2023
- (ii) **Hitting Topological Minor Models in Planar Graphs is Fixed Parameter Tractable**  
With *Petr A. Golovach and Dimitrios M. Thilikos*  
Conference version of (4) and (6) SODA 2020
- (iii) **An FPT-algorithm for recognizing  $k$ -apices of minor-closed graph classes**  
With *Ignasi Sau and Dimitrios M. Thilikos*  
Conference version of (7) ICALP 2020
- (iv) **An Algorithmic Meta-theorem for graph modification to Planarity and FOL**  
With *F. V. Fomin, P. A. Golovach, and D. M. Thilikos*  
Conference version of (8) ESA 2020
- (v) **Block Elimination Distance**  
With *Ö. Y. Diner, A. C. Giannopoulou, and D. M. Thilikos*  
Conference version of (9) WG 2020

## Unpublished manuscripts (available on arXiv)

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- (19) **Minor Containment and Disjoint Paths in almost-linear time**  
With *Tuukka Korhonen and Michał Pilipczuk*
- (20) **Planar Disjoint Paths in Linear Time.**  
With *Petr A. Golovach, Stavros G. Kolliopoulos, and Dimitrios M. Thilikos*

## Under preparation

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- (21) **Parameterizing the quantification of CMSO: model checking on minor-closed graph classes**  
With *Ignasi Sau and Dimitrios M. Thilikos*

## Presentations

### Presentations in Conferences

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<b>ICALP 2023</b> 50th International Colloquium on Automata, Languages, and Programming	July 10-14, 2023 Paderborn, Germany
<b>SODA 2023</b> 34th ACM-SIAM Symposium on Discrete Algorithms	January 22-25, 2023 Florence, Italy
<b>ICGT 2022</b> 11th International Colloquium on Graph Theory and Combinatorics	July 04-08, 2022 Montpellier, France
<b>WG 2021</b> 47th International Workshop on Graph-Theoretic Concepts in Computer Science	June 23-25, 2021 Online
<b>ESA 2020</b> 28th Annual European Symposium on Algorithms	September 7-9, 2020 Online
<b>ICALP 2020</b> 47th International Colloquium on Automata, Languages and Programming	July 8-11, 2020 Online

## Presentations in Workshops and Meetings

<b>JGA 2023</b> 25e Journées Graphes et Algorithmes	November 21-24, 2023 Villeurbanne, France
<b>LoGAlg2023</b> 2nd Workshop on Logic, Graphs, and Algorithms	November 15-17, 2023 Warsaw, Poland
<b>LoGAlg2022</b> Workshop on Logic, Graphs, and Algorithms	November 21-22, 2022 Montpellier, France
<b>JGA 2022</b> 24e Journées Graphes et Algorithmes	November 16-18, 2022 Paris, France
<b>CoA 2022</b> 2nd Workshop Complexity and Algorithms	September 26-28, 2022 Paris, France
<b>GROW 2022</b> 10th Workshop on Graph Classes, Optimization, and Width Parameters	September 19-22, 2022 Koper, Slovenia
<b>APGA 2022</b> Advances in Parameterized Graph Algorithms	May 02-06, 2022 Calp, Spain
<b>JNIM 2022</b> Journées Nationales du GDR IM	March 31, 2022 Villeneuve d'Ascq, France
<b>JGA 2021</b> 23e Journées Graphes et Algorithmes	November 15-19, 2021 Online
<b>JGA 2020</b> 22e Journées Graphes et Algorithmes	November 16-18, 2020 Online
<b>FraNorAC 2019</b> 1st French-Norwegian Workshop on Algorithms and Combinatorics	September 19-20, 2019 Montpellier, France

## Popular Science presentations

<b>Fête de la Science 2022 / 30 ans du LIRMM</b> Open Doors Days	October 2022 Montpellier, France
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## Teaching Experience

As teaching assistant:

<b>Informatics I</b> (undergraduate course) - <b>26h</b> Department of Mathematics, NKUA, Athens, Greece	Winter Semester <b>2019-2020</b> <i>in Greek</i>
<b>Recursion Theory</b> (graduate course) - <b>12h</b> Department of Mathematics, National and Kapodistrian University of Athens, Greece	Winter Semester <b>2019-2020</b> <i>in Greek</i>
<b>Graph Theory</b> (graduate course) - <b>10h</b> Department of Mathematics, National and Kapodistrian University of Athens, Greece	Winter Semester <b>2019-2020</b> <i>in English</i>
<b>Algorithms and Complexity</b> (undergraduate course) - <b>10h</b> Dep. of Informatics and Telecommunications, National and Kapodistrian Univ. of Athens, Greece	Spring Semester <b>2019-2020</b> <i>in Greek</i>
<b>Graph Algorithms</b> (undergraduate course) - <b>9h</b> Department of Informatics, Faculty of Science, University of Montpellier, France	Winter Semester <b>2020-2021</b> <i>in French</i>

**From Combinatorics to Graphs** (undergraduate course) - **26h**  
 Department of Informatics, Faculty of Science, University of Montpellier, France

**Modelling and Object Programming I** (undergraduate course) - **30h**  
 Department of Informatics, Faculty of Science, University of Montpellier, France

**Logic, Computability, Complexity** (graduate course) - **18h**  
 Department of Informatics, Faculty of Science, University of Montpellier, France

**Algorithms 2** (undergraduate course) - **18h**  
 Department of Informatics, Faculty of Science, University of Montpellier, France

**Computability/Complexity** (undergraduate course) - **30h**  
 Department of Informatics, Faculty of Science, University of Montpellier, France

**Algorithms 1** (undergraduate course) - **15h**  
 Department of Informatics, Faculty of Science, University of Montpellier, France

**Algorithms 1** (undergraduate course) - **30h**  
 Department of Informatics, Faculty of Science, University of Montpellier, France

**Algorithms 3** (undergraduate course) - **18h**  
 Department of Informatics, Faculty of Science, University of Montpellier, France

Spring Semester **2020-2021**  
*in French*

Spring Semester **2020-2021**  
*in French*

Winter Semester **2021- 2022**  
*in French*

Spring Semester **2021- 2022**  
*in French*

Spring Semester **2021- 2022**  
*in French*

Winter Semester **2022- 2023**  
*in French*

Spring Semester **2022- 2023**  
*in French*

Spring Semester **2022- 2023**  
*in French*

## Participation in organizing committees

**ICGT 2022**  
 11th International Colloquium on Graph Theory and Combinatorics

**JGA 2021**  
 23e Journées Graphes et Algorithmes

July 04-08, 2022  
 Montpellier, France

November 15-19, 2021  
 Online

## Journal and conference refereeing

**Conferences:**  
 WG 2019, MFCS 2020, IPEC 2020, STACS 2021, WADS 2021, FCSD 2021, WG 2021, IPEC 2021 (x2), SODA 2021, ESA 2022, IPEC 2022, WG 2023, MFCS 2023, IPEC 2023, STOC 2024.

**Journals:**  
 DM (x3), DAM, JCSS (x2), Algorithmica (x3), SIDMA, Theor. Comput. Sci. (x2), JGT.

## Participation in workshops

**STWOR**  
 Structural and Algorithmic Graph Theory Workshop

**GRASTA 2022**  
 10th Workshop on GRaph Searching, Theory and Applications

**Directed minors and digraph structure theory**  
 Workshop on structural theory of directed graphs

**Banff workshop 21w5235**  
 Workshop on Graph Product Structure Theory

**Dagstuhl Seminar 21391**  
 Workshop on Sparsity in Algorithms, Combinatorics and Logic

September 27 - October 1, 2023  
 Będlewo, Poland

May 16-20, 2022  
 Porquerolles, France

April 04-08, 2022  
 Online

November 21-26, 2021  
 Banff, Canada (remote participation)

September 26 - October 1, 2021  
 Dagstuhl, Germany (remote participation)

## Grants and Scholarships

“A. Papadakis” scholarship for undergraduate studies

2013 - 2017

## Other Interests

### Harmony & Music Theory

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**Advanced diploma in Harmony & Music Theory**

Awarded with honors

**2011 - 2016**

Byzantinon Odeion, Athens, Greece

### Classical Saxophone

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**Diploma in Classical Saxophone**

Awarded with honors and first prize

**2009 - 2018**

Athens Conservatoire, Athens, Greece

**Saxophone teacher**

in various conservatories of Athens.

**2018 - 2020**

Athens, Greece

**Participation in saxophone masterclasses**

with A. Zervas, L. Saguiguit, E. Honour, G. Cambell, J. Helton, J. Justeson, B. Romairone, P. Skyftas.

Former member of the *Athens Conservatoire Saxophone Quartet*.

Collaborations with the world-renowned concert pianist Svetlana Karpunkina, the *Athens Symphony Youth Orchestra*, the *Orchestra of Contemporary Music of Greek National Radio*, and the *Orchestra of the European University of Cyprus*.