

# 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. **Computing paths of large rank in planar frameworks deterministically**  
With F. V. Fomin, P. A. Golovach, and T. Korhonen *SIAM Journal on Discrete Mathematics*, 2024
2. **Compound logics for modification problems**  
With F. V. Fomin, P. A. Golovach, I. Sau, and D. M. Thilikos *Transactions on Computational Logic*, 2024
3. **Faster parameterized algorithms for modification problems to minor-closed classes**  
With Laure Morelle, Ignasi Sau, and Dimitrios M. Thilikos *TheoretCS*, 2024
4. **Fixed-Parameter Tractability of Maximum Colored Path and Beyond**  
With F. V. Fomin, P. A. Golovach, T. Korhonen, and K. Simonov *ACM Transactions of Algorithms*, 2024
5. **A more accurate view of the Flat Wall Theorem**  
With Ignasi Sau and Dimitrios M. Thilikos *Journal of Graph Theory*, 2024
6. **Branchwidth is  $(1, g)$ -self-dual**  
With G. Kontogeorgiou, A. Leivaditis, K. I. Psaromiligkos, and D. Zoros *Discrete Applied Mathematics*, 2024
7. **Shortest Cycles With Monotone Submodular Costs**  
With F. V. Fomin, P. A. Golovach, T. Korhonen, and D. Lokshtanov *ACM Transactions of Algorithms*, 2023
8. **Combing a Linkage in an Annulus**  
With Petr A. Golovach and Dimitrios M. Thilikos *SIAM Journal on Discrete Mathematics*, 2023
9.  **$k$ -apices of minor-closed graph classes. I. Bounding the obstructions**  
With Ignasi Sau and Dimitrios M. Thilikos *Journal of Combinatorial Theory, Series B*, 2023
10. **Hitting Topological Minor Models in Planar Graphs is Fixed Parameter Tractable**  
With Petr A. Golovach and Dimitrios M. Thilikos *ACM Transactions of Algorithms*, 2023
11.  **$k$ -apices of minor-closed graph classes. II. Parameterized algorithms**  
With Ignasi Sau and Dimitrios M. Thilikos *ACM Transactions of Algorithms*, 2022
12. **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
13. **Block Elimination Distance**  
With Ö. Y. Diner, A. C. Giannopoulou, and D. M. Thilikos *Graphs and Combinatorics*, 2022
14. **Minor-Obstructions for Apex Sub-unicyclic Graphs.**  
With A. Leivaditis, A. Singh, D. M. Thilikos, K. Tsatsanis, and V. Velona *Discrete Applied Mathematics*, 2020
15. **Minor-Obstructions for Apex-Pseudoforests**  
With A. Leivaditis, A. Singh, D. M. Thilikos, and K. Tsatsanis *Discrete Mathematics*, 2021

## International peer-reviewed conferences

---

16. **Minor Containment and Disjoint Paths in almost-linear time**  
With Tuukka Korhonen and Michał Pilipczuk **FOCS 2024**
17. **Elementary first-order model checking on sparse classes**  
With Jakub Gajarský, Michał Pilipczuk, Marek Sokolowski, and Szymon Toruńczyk **LICS 2024**
18. **Model Checking Disjoint-Paths Logic on Topological-Minor-Free Graph Classes**  
With Nicole Schirrmacher, Sebastian Siebertz, Dimitrios M. Thilikos, and Alexandre Vigny **LICS 2024**
19. **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**

## Conference versions of papers published in journals

---

- (i) **Computing paths of large rank in planar frameworks deterministically**  
With Fedor V. Fomin, Petr A. Golovach, and Tuukka Korhonen  
Conference version of (1) ISAAC 2023
- (ii) **Compound logics for modification problems**  
With Fedor V. Fomin, Petr A. Golovach, Ignasi Sau, and Dimitrios M. Thilikos  
Conference version of (2) ICALP 2023
- (iii) **Faster parameterized algorithms for modification problems to minor-closed classes**  
With Laure Morelle, Ignasi Sau, and Dimitrios M. Thilikos  
Conference version of (3) ICALP 2023
- (iv) **Fixed-Parameter Tractability of Maximum Colored Path and Beyond**  
With Fedor V. Fomin, Petr A. Golovach, Tuukka Korhonen, and Kirill Simonov  
Conference version of (4) SODA 2023
- (v) **Shortest Cycles With Monotone Submodular Costs**  
With F. V. Fomin, P. A. Golovach, T. Korhonen, and D. Lokshtanov  
Conference version of (7) SODA 2023
- (vi) **Hitting Topological Minor Models in Planar Graphs is Fixed Parameter Tractable**  
With Petr A. Golovach and Dimitrios M. Thilikos  
Conference version of (8) and (10) SODA 2020
- (vii) **An FPT-algorithm for recognizing  $k$ -apices of minor-closed graph classes**  
With Ignasi Sau and Dimitrios M. Thilikos  
Conference version of (11) ICALP 2020
- (viii) **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 (12) ESA 2020
- (ix) **Block Elimination Distance**  
With Ö. Y. Diner, A. C. Giannopoulou, and D. M. Thilikos  
Conference version of (13) WG 2020

## Unpublished manuscripts (available on arXiv)

---

### Finding irrelevant vertices in linear time on bounded-genus graphs

With Petr A. Golovach, Stavros G. Kolliopoulos, and Dimitrios M. Thilikos

### Parameterizing the quantification of CMSO: model checking on minor-closed graph classes

With Ignasi Sau and Dimitrios M. Thilikos

## Presentations

### Presentations in Conferences

---

<b>LICS 2024</b> 39th Annual ACM/IEEE Symposium on Logic in Computer Science	July 08-11, 2024 Tallinn, Estonia
<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

**ESA 2020**  
28th Annual European Symposium on Algorithms

September 7-9, 2020  
Online

**ICALP 2020**  
47th International Colloquium on Automata, Languages and Programming

July 8-11, 2020  
Online

### Presentations in Workshops and Meetings

---

**STWOR 2**  
2nd Workshop on Structural Graph Theory

July 1-5, 2024  
Chęciny, Poland

**JGA 2023**  
25e Journées Graphes et Algorithmes

November 21-24, 2023  
Villeurbanne, France

**LoGAlg2023**  
2nd Workshop on Logic, Graphs, and Algorithms

November 15-17, 2023  
Warsaw, Poland

**LoGAlg2022**  
Workshop on Logic, Graphs, and Algorithms

November 21-22, 2022  
Montpellier, France

**JGA 2022**  
24e Journées Graphes et Algorithmes

November 16-18, 2022  
Paris, France

**CoA 2022**  
2nd Workshop Complexity and Algorithms

September 26-28, 2022  
Paris, France

**GROW 2022**  
10th Workshop on Graph Classes, Optimization, and Width Parameters

September 19-22, 2022  
Koper, Slovenia

**APGA 2022**  
Advances in Parameterized Graph Algorithms

May 02-06, 2022  
Calp, Spain

**JNIM 2022**  
Journées Nationales du GDR IM

March 31, 2022  
Villeneuve d'Ascq, France

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

November 15-19, 2021  
Online

**JGA 2020**  
22e Journées Graphes et Algorithmes

November 16-18, 2020  
Online

**FraNorAC 2019**  
1st French-Norwegian Workshop on Algorithms and Combinatorics

September 19-20, 2019  
Montpellier, France

### Popular Science presentations

---

**Fête de la Science 2022 / 30 ans du LIRMM**  
Open Doors Days

October 2022  
Montpellier, France

## Teaching Experience

As teaching assistant:

**Informatics I** (undergraduate course) - **26h**  
Department of Mathematics, NKUA, Athens, Greece

Winter Semester **2019-2020**  
*in Greek*

**Recursion Theory** (graduate course) - **12h**  
Department of Mathematics, National and Kapodistrian University of Athens, Greece

Winter Semester **2019-2020**  
*in Greek*

**Graph Theory** (graduate course) - **10h**  
Department of Mathematics, National and Kapodistrian University of Athens, Greece

Winter Semester **2019-2020**  
*in English*

**Algorithms and Complexity** (undergraduate course) - **10h**  
Dep. of Informatics and Telecommunications, National and Kapodistrian Univ. of Athens, Greece

Spring Semester **2019-2020**  
*in Greek*

<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>
<b>From Combinatorics to Graphs</b> (undergraduate course) - <b>26h</b> Department of Informatics, Faculty of Science, University of Montpellier, France	Spring Semester <b>2020-2021</b> <i>in French</i>
<b>Modelling and Object Programming I</b> (undergraduate course) - <b>30h</b> Department of Informatics, Faculty of Science, University of Montpellier, France	Spring Semester <b>2020-2021</b> <i>in French</i>
<b>Logic, Computability, Complexity</b> (graduate course) - <b>18h</b> Department of Informatics, Faculty of Science, University of Montpellier, France	Winter Semester <b>2021- 2022</b> <i>in French</i>
<b>Algorithms 2</b> (undergraduate course) - <b>18h</b> Department of Informatics, Faculty of Science, University of Montpellier, France	Spring Semester <b>2021- 2022</b> <i>in French</i>
<b>Computability/Complexity</b> (undergraduate course) - <b>30h</b> Department of Informatics, Faculty of Science, University of Montpellier, France	Spring Semester <b>2021- 2022</b> <i>in French</i>
<b>Algorithms 1</b> (undergraduate course) - <b>15h</b> Department of Informatics, Faculty of Science, University of Montpellier, France	Winter Semester <b>2022- 2023</b> <i>in French</i>
<b>Algorithms 1</b> (undergraduate course) - <b>30h</b> Department of Informatics, Faculty of Science, University of Montpellier, France	Spring Semester <b>2022- 2023</b> <i>in French</i>
<b>Algorithms 3</b> (undergraduate course) - <b>18h</b> Department of Informatics, Faculty of Science, University of Montpellier, France	Spring Semester <b>2022- 2023</b> <i>in French</i>

## Participation in organizing committees

<b>ICGT 2022</b> 11th International Colloquium on Graph Theory and Combinatorics	July 04-08, 2022 Montpellier, France
<b>JGA 2021</b> 23e Journées Graphes et Algorithmes	November 15-19, 2021 Online

## Journal and conference refereeing

### Conferences:

WG 2019, MFCS 2020, IPEC 2020, STACS 2021, WADS 2021, FCS D 2021, WG 2021, IPEC 2021 (x2), SODA 2021, ESA 2022, IPEC 2022, WG 2023, MFCS 2023, IPEC 2023, STOC 2024, IWOC A 2024, SWAT 2024, WG 2024, SODA 2025.

### Journals:

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

## Participation in meetings and workshops

<b>HALG 2024</b> Highlights of Algorithms 2024	June 03-05, 2024 Warsaw, Poland
<b>STWOR</b> Structural and Algorithmic Graph Theory Workshop	September 27 - October 1, 2023 Będlewo, Poland
<b>GRASTA 2022</b> 10th Workshop on GRaph Searching, Theory and Applications	May 16-20, 2022 Porquerolles, France
<b>Directed minors and digraph structure theory</b> Workshop on structural theory of directed graphs	April 04-08, 2022 Online
<b>Banff workshop 21w5235</b> Workshop on Graph Product Structure Theory	November 21-26, 2021 Banff, Canada (remote participation)
<b>Dagstuhl Seminar 21391</b> Workshop on Sparsity in Algorithms, Combinatorics and Logic	September 26 - October 1, 2021 Dagstuhl, Germany (remote participation)

## Awards

Thesis prize “Charles Delorme”

2024

Annual award for an excellent PhD thesis in graphs (theory and algorithms) in France

## Other Interests

### Harmony & Music Theory

---

**Advanced diploma in Harmony & Music Theory**

**2011 - 2016**

Awarded with honors

Byzantinon Odeion, Athens, Greece

### Classical Saxophone

---

**Diploma in Classical Saxophone**

**2009 - 2018**

Awarded with honors and first prize

Athens Conservatoire, Athens, Greece

**Saxophone teacher**

**2018 - 2020**

in various conservatories of Athens.

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*.