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*   Defence date: 12/12/2023
Advisors: Ignasi Sau and Dimitrios Thilikos

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*)		**April 2023**
Department of Computer Science and Technology, University of Cambridge, United Kingdom		(4 weeks)
Algorithms Group (*hosted by Michał Pilipczuk*)		**March 2023**
Institute of Informatics, University of Warsaw, Poland		(4 weeks)
Discrete Mathematics Group (*hosted by Sang-il Oum*)		**December 2022**
Institute for Basic Science, Daejeon, Republic of Korea.		(4 weeks)
AG Theoretische Informatik group (*hosted by Sebastian Siebertz*)		**October 2022**
Faculty 3 - Mathematics and Computer Science, University of Bremen, Germany		(1 week)
Algorithms Research Group (*hosted by Fedor V. Fomin*)		**September 2021**
Department of Informatics, University of Bergen, Norway.		(2 weeks)
AlGCo team (*hosted by Ignasi Sau*)		**November 2019**
LIRMM, Montpellier, France		(2 weeks)
AlGCo team (*hosted by Ignasi Sau*)		**September 2019**
LIRMM, Montpellier, France		(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. Lokshtanov   *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) **Compound logics for modification problems**
With Fedor V. Fomin, Petr A. Golovach, Ignasi Sau, and Dimitrios M. Thilikos   **ICALP** 2023

(13) **Faster parameterized algorithms for modification problems to minor-closed classes**
With Laure Morelle, Ignasi Sau, and Dimitrios M. Thilikos   **ICALP** 2023

(14) **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

(15) **Fixed-Parameter Tractability of Maximum Colored Path and Beyond**
With Fedor V. Fomin, Petr A. Golovach, Tuukka Korhonen, and Kirill Simonov   **SODA** 2023

(16) **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

(i) **Shortest Cycles With Monotone Submodular Costs**
With F. V. Fomin, P. A. Golovach, T. Korhonen, and D. Lokshtanov   **SODA** 2023
Conference version of (3)

(ii) **Hitting Topological Minor Models in Planar Graphs is Fixed Parameter Tractable**
With Petr A. Golovach and Dimitrios M. Thilikos   **SODA** 2020
Conference version of (4) and (6)

(iii) **An FPT-algorithm for recognizing k-apices of minor-closed graph classes**
With Ignasi Sau and Dimitrios M. Thilikos   **ICALP** 2020
Conference version of (7)

(iv) **An Algorithmic Meta-theorem for graph modification to Planarity and FOL**
With F. V. Fomin, P. A. Golovach, and D. M. Thilikos   **ESA** 2020
Conference version of (8)

(v) **Block Elimination Distance**
With Ö. Y. Diner, A. C. Giannopoulou, and D. M. Thilikos   **WG** 2020
Conference version of (9)

Unpublished manuscripts (available on arXiv)

(17) **Minor Containment and Disjoint Paths in almost-linear time**
With Tuukka Korhonen and Michał Pilipczuk

(18) **Elementary first-order model checking on sparse classes**
With Jakub Gajarský, Michał Pilipczuk, Marek Sokołowski, and Szymon Toruńczyk

(19) **Model Checking Disjoint-Paths Logic on Topological-Minor-Free Graph Classes**
With Nicole Schirrmacher, Sebastian Siebertz, Dimitrios M. Thilikos, and Alexandre Vigny

(20) **Planar Disjoint Paths in Linear Time**.
With Petr A. Golovach, Stavros G. Kolliopoulos, and Dimitrios M. Thilikos

Under preparation

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

Presentations

Presentations in Conferences

ICALP 2023   July 10-14, 2023
50th International Colloquium on Automata, Languages, and Programming   Paderborn, Germany

SODA 2023   January 22-25, 2023
34th ACM-SIAM Symposium on Discrete Algorithms   Florence, Italy

ICGT 2022   July 04-08, 2022
11th International Colloquium on Graph Theory and Combinatorics   Montpellier, France

WG 2021   June 23-25, 2021
47th International Workshop on Graph-Theoretic Concepts in Computer Science   Online

ESA 2020   September 7-9, 2020
28th Annual European Symposium on Algorithms   Online

ICALP 2020   July 8-11, 2020
47th International Colloquium on Automata, Languages and Programming   Online

Presentations in Workshops and Meetings

JGA 2023   November 21-24, 2023
25e Journées Graphes et Algorithmes   Villeurbanne, France

LoGAlg2023   November 15-17, 2023
2nd Workshop on Logic, Graphs, and Algorithms   Warsaw, Poland

LoGAlg2022   November 21-22, 2022
Workshop on Logic, Graphs, and Algorithms   Montpellier, France

JGA 2022   November 16-18, 2022
24e Journées Graphes et Algorithmes   Paris, France

CoA 2022   September 26-28, 2022
2nd Workshop Complexity and Algorithms   Paris, France

GROW 2022   September 19-22, 2022
10th Workshop on Graph Classes, Optimization, and Width Parameters   Koper, Slovenia

APGA 2022   May 02-06, 2022
Advances in Parameterized Graph Algorithms   Calp, Spain

JNIM 2022   March 31, 2022
Journées Nationales du GDR IM   Villeneuve d'Ascq, France

JGA 2021   November 15-19, 2021
23e Journées Graphes et Algorithmes   Online

JGA 2020   November 16-18, 2020
22e Journées Graphes et Algorithmes   Online

FraNorAC 2019   September 19-20, 2019
1st French-Norwegian Workshop on Algorithms and Combinatorics   Montpellier, France

Popular Science presentations

Fête de la Science 2022 / 30 ans du LIRMM   October 2022
Open Doors Days   Montpellier, France

Teaching Experience

As teaching assistant:

Informatics I (undergraduate course) - **26h**   Winter Semester **2019-2020**
Department of Mathematics, NKUA, Athens, Greece   *in Greek*

Recursion Theory (graduate course) - **12h**   Winter Semester **2019-2020**
Department of Mathematics, National and Kapodistrian University of Athens, Greece   *in Greek*

Graph Theory (graduate course) - **10h**   Winter Semester **2019-2020**
Department of Mathematics, National and Kapodistrian University of Athens, Greece   *in English*

Algorithms and Complexity (undergraduate course) - **10h**   Spring Semester **2019-2020**
Dep. of Informatics and Telecommunications, National and Kapodistrian Univ. of Athens, Greece   *in Greek*

Graph Algorithms (undergraduate course) - **9h**   Winter Semester **2020-2021**
Department of Informatics, Faculty of Science, University of Montpellier, France   *in French*

From Combinatorics to Graphs (undergraduate course) - **26h**   Spring Semester **2020-2021**
Department of Informatics, Faculty of Science, University of Montpellier, France   *in French*

Modelling and Object Programming I (undergraduate course) - **30h**   Spring Semester **2020-2021**
Department of Informatics, Faculty of Science, University of Montpellier, France   *in French*

Logic, Computability, Complexity (graduate course) - **18h**   Winter Semester **2021- 2022**
Department of Informatics, Faculty of Science, University of Montpellier, France   *in French*

Algorithms 2 (undergraduate course) - **18h**   Spring Semester **2021- 2022**
Department of Informatics, Faculty of Science, University of Montpellier, France   *in French*

Computability/Complexity (undergraduate course) - **30h**   Spring Semester **2021- 2022**
Department of Informatics, Faculty of Science, University of Montpellier, France   *in French*

Algorithms 1 (undergraduate course) - **15h**   Winter Semester **2022- 2023**
Department of Informatics, Faculty of Science, University of Montpellier, France   *in French*

Algorithms 1 (undergraduate course) - **30h**   Spring Semester **2022- 2023**
Department of Informatics, Faculty of Science, University of Montpellier, France   *in French*

Algorithms 3 (undergraduate course) - **18h**   Spring Semester **2022- 2023**
Department of Informatics, Faculty of Science, University of Montpellier, France   *in French*

Participation in organizing committees

ICGT 2022   July 04-08, 2022
11th International Colloquium on Graph Theory and Combinatorics   Montpellier, France

JGA 2021   November 15-19, 2021
23e Journées Graphes et Algorithmes   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   September 27 - October 1, 2023
Structural and Algorithmic Graph Theory Workshop   Będlewo, Poland

GRASTA 2022   May 16-20, 2022
10th Workshop on GRAph Searching, Theory and Applications   Porquerolles, France

Directed minors and digraph structure theory   April 04-08, 2022
Workshop on structural theory of directed graphs   Online

Banff workshop 21w5235   November 21-26, 2021
Workshop on Graph Product Structure Theory   Banff, Canada (remote participation)

Dagstuhl Seminar 21391   September 26 - October 1, 2021
Workshop on Sparsity in Algorithms, Combinatorics and Logic   Dagstuhl, Germany (remote participation)

Grants and Scholarships

"A. Papadakis" scholarship for undergraduate studies   **2013 - 2017**

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*.