<div align="center">

Curriculum Vitae

Ararat Harutyunyan

</div>

Personal:

Year of Birth	1984
Citizenship	Canadian
Languages	English (native fluency), Armenian (native fluency), French (advanced), Russian (intermediate)

Contact Details:

Affiliation	LAMSADE (Computer Science Department), Université Paris-Dauphine
E-mail	ararat.harutyunyan@dauphine.fr
Wepage:	http://www.lamsade.dauphine.fr/∼aharutyunyan/

Academic Experience

2017 –	Maitre de Conférences (Assistant Professor), LAMSADE, Université Paris-Dauphine.
2015 – 2017	LabEx CIMI Research Fellow (Centre International de Mathématiques et Informatique de Toulouse).
10/2014 – 09/2015	Postdoctoral Researcher, Laboratoire de l'Informatique du Parallélisme, École Normale Supérieure de Lyon.
10/2013 – 10/2014	Postdoctoral Researcher, Mathematical Institute, University of Oxford.
10/2012 – 10/2013	Postdoctoral Researcher, Université Paris-Sud, Paris, France.
09/2011 – 06/2012	Postdoctoral Researcher and Instructor, Simon Fraser University, Vancouver, Canada.
09/2008 – 06/2011	PhD, Simon Fraser University, Vancouver, Canada.
09/2006 – 08/2008	MSc, McGill University, Montréal, Canada.
09/2003 – 08/2006	BSc (Honours), McGill University, Montréal, Canada.

Research Interests:

My research interests are in discrete mathematics: graph theory, applications of discrete probability and graph algorithms. In particular, I am interested in structural, probabilistic and extremal graph theory, random graphs, discharging and probabilistic methods, combinatorial and randomized algorithms. In recent years I have also become interested and have done some work in other areas of computer science such as social networks and social choice.

Editorial

Associate Editor: *Annals of Combinatorics*

Ph.D Thesis:

Title	Brooks type results for coloring of digraphs.
Supervisor	Professor Bojan Mohar (*Canada Research Chair (Tier 1) in Graph Theory*).
Defense Date	June 6, 2011.
Defense Committee	Prof. Bojan Mohar (Senior Supervisor, SFU) Prof. Matt DeVos (Supervisor, SFU) Prof. Pavol Hell (**Internal Examiner**, *Managing editor of Journal of Graph Theory*, SFU) Prof. Bruce Reed (**External Examiner**, *Canada Research Chair (Tier 1) in Graph Theory*, McGill).

MSc. Thesis:

Title	Probabilistic Methods and Domination Related Problems in Graphs.
Supervisor	Professors Jacques Verstraete (UC San Diego) and Dmitry Jakobson (McGill University)
Thesis Examiner	Professor Tibor Szabó (Berlin Free University)

Honors and Grants:

2021 –2025	ANR (French National Research Agency) Young Researcher's Grant (**PI**), €234K Project **DAGDigDec** (*DAGs and Digraph Decompositions*).
2021 –	INS2I Research Grant, *Acyclicity in (Di)graphs*, 4-member team, (PI: P. Valicov), €7.5k
2015 – 2018	LabEx CIMI (Centre International de Mathematique et Informatique de Toulouse) Research Fellowship, (Equipe *Probabilité et Statistique*, Université Paul Sabatier)
2013 – 2015	FRQNT Postdoctoral Personal Grant, $30K/year (1st among 4 recipients).
2012 – 2013	Postdoctoral Grant, Université Paris-Sud.
2011	Nominated for best PhD Award in Science, Faculty of Science, Simon Fraser University.
2011	President's PhD Research Stipend, Simon Fraser University, $6K.
2011	Graduate Fellowship, Simon Fraser University, $6K.
2008 – 2011	FQRNT Doctoral Grant, $20K/year.
2006 – 2008	Research Assistantship, McGill University, $9K.
2004	NSERC Undergraduate Summer Research Award, $6K.

Journal Articles:

Selected Papers marked by (*)

[1] A. Harutyunyan, M. Lampis, V. Lozin, and J. Monnot. Maximum independent sets in subcubic graphs: new results. *Theoretical Computer Science*, accepted.

[2] * A. Harutyunyan, P. Horn, and J. Verstraete. Independent dominating sets in graphs of girth five. *Combinatorics, Probability and Computing*, accepted.

[3] * A. Harutyunyan, L. Pastor, and S. Thomassé. Disproving the normal graph conjecture. *Journal of Combinatorial Theory (Ser. B)*, accepted.

[4] T. Denat, A. Harutyunyan, and V. Paschos. Average-case complexity of a branch-and-bound algorithm for min dominating set. *Discrete Mathematics*, submitted.

[5] * A. Harutyunyan, T.-N. Le, A. Newman, and S. Thomassé. Coloring dense digraphs. *Combinatorica*, 39(2):1021–1053, 2019.

[6] * N. Bousquet, L. Esperet, A. Harutyunyan, and R. de Joannis de Verclos. Exact distance coloring in trees. *Combinatorics, Probability and Computing*, 28(2):177–186, 2019.

[7] * A. Harutyunyan, T.-N. Le, S. Thomassé, and H. Wu. Coloring tournaments: from local to global. *Journal of Combinatorial Theory (Ser. B)*, 138:166–171, 2019.

[8] * J. Bensmail, A. Harutyunyan, T.-N. Le, and S. Thomassé. Edge-partitioning a graph into paths: beyond the Bárat-Thomassen conjecture. *Combinatorica*, 39(2):239–263, 2019.

[9] A. Beynier, Y. Chevaleyre, L. Gourvès, A. Harutyunyan, J. Lesca, N. Maudet, and A. Wilczynski. Local envy-freeness in house allocation problems. *Autonomous Agents and Multi-Agent Systems*, 33(5):591–627, 2019.

[10] A. Harutyunyan, T.-N. Le, A. Newman, and S. Thomassé. Domination fractional domination in digraphs. *Electronic Journal of combinatorics*, 25(3):P3.32, 2018.

[11] * J. Bensmail, A. Harutyunyan, and N.-K. Le. List coloring digraphs. *Journal of Graph Theory*, 87(4):492–508, 2018.

[12] * J. Bensmail, A. Harutyunyan, T.-N. Le, M. Merker, and S. Thomassé. A proof of the Bárat-Thomassen conjecture. *Journal of Combinatorial Theory (Ser. B)*, 124:39 – 55, 2017.

[13] J. Bensmail, A. Harutyunyan, N.-K. Le, B. Li, and N. Lichiardopol. Disjoint cycles of different lengths in graphs and digraphs. *Electronic Journal of Combinatorics*, 24(4):P4.37, 2017.

[14] F. Foucaud, A. Harutyunyan, P. Hell, S. Legay, Y. Manoussakis, and R. Naserasr. The complexity of tropical graph homomorphisms. *Discrete Applied Mathematics*, 229:64–81, 2017.

[15] * A. Harutyunyan and B. Mohar. Planar digraphs of digirth five are 2-colorable. *Journal of Graph Theory*, 84(4):408 – 427, 2017.

[16] J.A. Angles d'Auriac, N. Cohen, A. El Maftouhi, A. Harutyunyan, Legay S., and Y. Manoussakis. Connected tropical subgraphs in vertex-colored graphs. *Discrete Mathematics and Theoretical Computer Science*, 17(3):327–348, 2016.

[17] A. Harutyunyan, R. Naserasr, M. Petrushevski, R. Skrekovski, and Q. Sun. Mapping planar graphs into the Coxeter graph. *Discrete Mathematics*, 339:839 – 849, 2016.

[18] A. Harutyunyan and S. Legay. Linear time algorithms for weighted offensive and powerful alliances in trees. *Theoretical Computer Science*, 582:17–26, 2015.

[19] H. El Maftouhi, A. Harutyunyan, and Y. Manoussakis. Weak-balance in random graphs. *Internet Mathematics*, 11(2):143–154, 2015.

[20] J. Bensmail, A. Harutyunyan, H. Hocquard, and P. Valicov. Strong edge colorings of planar graphs of girth 6. *Discrete Applied Mathematics*, 179:229–234, 2014.

[21] A. Harutyunyan. Global offensive alliances in graphs and random graphs. *Discrete Applied Mathematics*, 164:522–526, 2014.

[22] A. Harutyunyan. Some bounds on global alliances in trees. *Discrete Applied Mathematics*, 161(12):1739–1746, 2013.

[23] A. Harutyunyan, M. Kayll, B. Mohar, and L. Rafferty. Uniquely *D*-colorable digraphs with large girth. *The Canadian Journal of Mathematics*, 64:1310–1328, 2012.

[24] A. Harutyunyan and B. Mohar. Planar graphs have exponentially many 3-arboricities. *SIAM Journal on Discrete Mathematics*, 26(3):1269–1280, 2012.

[25] A. Harutyunyan and B. Mohar. Two results on the digraph chromatic number. *Discrete Mathematics*, 312(10):1823–1826, 2012.

[26] * A. Harutyunyan and B. Mohar. Gallai's theorem for list coloring of digraphs. *SIAM Journal on Discrete Mathematics*, 25(1):170–180, 2011.

[27] A. Harutyunyan and B. Mohar. Strengthening Brooks' Theorem for digraphs of girth at least three. *The Electronic Journal of Combinatorics*, 18(1):P#195, 2011.

Conference Articles:

[1] A. Harutyunyan, M. Lampis, V. Lozin, and J. Monnot. Maximum independent sets in subcubic graphs: new results. *WG*, pages 40–52, 2019.

[2] A. Harutyunyan. Global offensive alliances in graphs via degree sequences. In *VI Latin-American Algorithms, Graphs and Optimization Symposium (LAGOS 2011)*, 2011.

[3] A. Harutyunyan. A fast algorithm for powerful alliances in trees. In *Proceedings of the 4th International Conference on Combinatorial Optimization and Applications (COCOA 2010)*, volume 6508 of *LNCS*, pages 31–40, 2010.

[4] A. Harutyunyan. Some bounds on alliances in trees. In *The 9th Cologne-Twente Workshop on Graphs and Combinatorial Optimization (CTW 2010)*, pages 83–86, 2010.

[5]

Selected Conference Talks and Workshops:

- First Armenian Workshop on Graph Theory, Probability and applications to Machine Learning Dzoraget, Armenia, June 1-8, 2019.

- Coloring dense digraphs, Canadian Discrete and Algorithmic Mathematics Conference (CanaDAM), Toronto, Canada, June 12-16, 2017.

- Proof of the Barat-Thomassen Conjecture, Bordeaux Graph Workshop, Bordeaux, France, November 7-10, 2016.

- Proof of the Barat-Thomassen Conjecture, SIAM conference on Discrete Mathematics, Atlanta, USA, June 6-10, 2016.

- Proof of the Barat-Thomassen Conjecture (**Invited talk**), Advanced Mathematics for Network Analysis, Luchon, France, May 1-4, 2016.

- Connections between colorings of graphs and digraphs, Spectrum of Random Graphs, CIRM, Marseille France, January 4-8, 2016.

- A disproof of the Normal Graph Conjecture, Journés Graphes et Algorithmes, November 4-6, 2015, Orléans.

- Partitioning a graph into paths: beyond Barat-Thomassen Conjecture, Connections in Discrete Mathematics (in honor of Ron Graham's 80th birthday), Vancouver, Canada, June 15-19, 2015.

- Balance in Random Graphs, Bordeaux Graphs Workshop, Bordeaux, France, November 19-22, 2014.

- Recent results in digraph colorings, SIAM conference on Discrete Mathematics, Minneapolis, USA, June 16 - 19, 2014.

- Some results on sparsity, high chromatic number and homomorphisms, Journeés Graphes et Algorithmes (JGA 2013), Orsay, France, November 13-15, 2013.

- Some problems on the dichromatic number of digraphs, Utrecht Graphs Workshop, Utrecht, Netherlands, October 31 - November 1, 2013.

- Colorings and acyclic sets in planar graphs and digraphs, 2nd Bordeaux Graph Theory Workshop (BGW 2012), Bordeaux, France, November 21 - November 24, 2012.

- Gallai's Theorem for list coloring of digraphs, 3rd Canadian Discrete and Algorithmic Mathematics Conference (CanaDAM) 2011, Victoria, Canada, May 31 - June 3, 2011.

- A fast algorithm for powerful alliances in trees, 4th International Conference on Combinatorial Optimization and Applications (COCOA 2010), Hawaii, USA, December 18-20, 2010.

- Some bounds on alliances in Trees, 9th Cologne-Twente Workshop on Graphs and Combinatorial Optimization (CTW 2010), Cologne, Germany, May 25-27, 2010.

Selected Seminars and Presentations:

- Disproof of the Normal Graphs Conjecture, Lamsade Seminar, Paris, December 2017.

- List Coloring Digraphs, I3S seminar, Nice, February 2017.

- List Coloring Digraphs, G-SCOP seminar, Grenoble, January 2017.

- Proof of the Barat-Thomassen Conjecture, CWI, Amsterdam, April 2016.

- Proof of the Barat-Thomassen Conjecture, LIF seminar, Aix-Marseille Université, February, 2016.

- A disproof of the Normal Graph Conjecture, Probability Seminar, Mathematical Institute, Toulouse, December 2015.

- Some problems of colorings in graph and digraphs, Combinatorics seminar, University of Birmingham, February 2014.

- On the dichromatic number of digraphs, LIRMM seminar, Université Montpellier, September 2013.

- Coloring digraphs, LIP seminar, ENS Lyon, September 2013.

- Independent dominating sets in graphs by the semi-random method, LIAFA Graph theory and distributed algorithms seminar, Université Paris 7, January 2013.

- On the chromatic number of digraphs, LRI Seminar, Université Paris-Sud, June 2012.

- On the chromatic number of digraphs, Mascotte Seminar, Nice-Sophia Antipolis, May 2012.

- Vertex-arboricity of planar graphs, SFU Discrete Mathematics Seminar, Simon Fraser University, March 2012.

- On the digraph chromatic number, SFU Discrete Mathematics Seminar, Simon Fraser University, May 2011.

- Shuffling cards: How many shuffles are enough?, *Proofs from the Book seminar series*, Simon Fraser University, February 2011.

- Digraph Coloring, Interdisciplinary Research in the Mathematical and Computational Sciences Researchers Poster Session, Simon Fraser University, Vancouver, April 2010.

- Independent Dominating Sets in Graphs of girth five, SFU Discrete Mathematics Seminar, Simon Fraser University, Vancouver, March 2010.

- Concentration Inequalities for Random Variables, Centre de Recherches Mathematiques (CRM) seminar in Analysis and Mathematical Physics, McGill University, Montreal, November 2007.

- An Introduction to the Probabilistic Method, Centre de Recherches Mathematiques (CRM) seminar in Analysis and Probability, McGill University, Montreal, May 2007.

- Highly Irregular Graphs, Concordia Computational Combinatorial Optimization Laboratory Seminar (ConCoCO), Montreal, April 2007.

Referee Service:

Reviewer for: Journal of Combinatorial Theory (Ser. B), SIAM Journal on Discrete Mathematics, Journal of Graph Theory, European Journal of Combinatorics, Electronic Journal of Combinatorics, Discrete Applied Mathematics, Discrete Mathematics, Discussiones Mathematicae Graph Theory, Information and Computation, Theoretical Computer Science, MFCS, Discrete Mathematics and Theoretical Computer Science

Departmental Service:

2019–	Member of the departmental *Undergraduate Admissions Committee*, Computer Science Department, University Paris-Dauphine.
2019–	Member of the departmental *Scientific Council*, Computer Science Department, University Paris-Dauphine.
2016 – 2017	*Organiser* of the weekly *Probability Theory Seminar* (with Jonas Kahn and Laurent Miclo), Mathematical Institute, University of Toulouse.

Student supervision:

2019 –	**Nikolaos Melissinos** (PhD student; U. Paris-Dauphine) (supervised with Laurent Gourvès).
2020 –	**Narek Hovhannisyan** (MSc student).
2020 –	**Aram Khanlari** (BSc diploma thesis).
01/2015 – 06/2015	**Khang Le** (Master's student, supervised with Julien Bensmail, ENS de Lyon); **2 joint papers**
10/2012 – 10/2013	**Sylvain Legay** (informal co-supervision, Ph.D student of Yannis Manoussakis); **3 joint papers**
10/2012 – 10/2013	**Jean-Alexandre Anglès D'Auriac** (informal co-supervision, Ph.D student of Yannis Manoussakis); **1 joint paper**
10/2014 – 09/2015	**Principal Examiner** of two Master's student defences at ENS de Lyon.

Teaching:

Winter 2019	**Lecturer** for Probabilistic Methods in Discrete Mathematics (PhD course), University Paris-Dauphine. (Class size: 10 students)
Fall 2018	**Lecturer** for Probabilité Discrète, University Paris-Dauphine. (Class size: 240 students)
Winter 2018	**Lecturer** for Optimisation Combinatoire, University of Paris-Dauphine. (Class size: 25 students)
Fall 2018, Fall 2019, Fall 2020	**Lecturer** for Analyse de Données (Data Analysis), University Paris-Dauphine. (Average Class size: 50 students)
Fall 2017, Fall 2018, Fall 2019	**Lecturer** for Graphes, algorithms et applications, University Paris-Dauphine. (Average Class size: 30 students)
Winter 2015, and 2016:	**Lecturer** for EISC102 Une promenade dans le jardin de la théorie des graphes (Selected topics in graph theory) (Average Class size: 25 students), ISAE/SUPAERO.
Winter 2012	**Lecturer** for MACM 201 Discrete Mathematics II (for Computer Science students) (Class size: 50 students), Simon Fraser University.
Fall 2011	**Lecturer** for MATH 150 Calculus I with Review (Class size: 40 students), Simon Fraser University.
Fall 2010	**Teaching Assistant** for MATH 308 Linear Optimization, Simon Fraser University.
Winter 2010	**Teaching Assistant** for MATH 343 Algebra: Groups, Simon Fraser University.
Fall 2009	**Teaching Assistant** for MATH 345 Introduction to Graph Theory, Simon Fraser University.
Fall 2007	**Teaching Assistant** for MATH 141 Calculus II, McGill University.

Miscellaneous:

Erdős number: 2 (via a paper with Pavol Hell and the following paper)

P. Hell, P. Erdős and P. Winkler, Bandwidth versus bandsize, *Annals of Discrete Math. 41, 117–130, 1989.*

References:

Prof. Pavol Hell
School of Computing Science
Simon Fraser University
Email: pavol@sfu.ca

Prof. Colin McDiarmid
Department of Statistics
University of Oxford
E-mail: cmcd@stats.ox.ac.uk

Prof. Bojan Mohar
Department of Mathematics
Simon Fraser University
E-mail: mohar@sfu.ca

Prof. Stéphan Thomassé
Laboratoire de l'Informatique du Parallélisme
Ecole Normale Supérieure de Lyon
Email: stephan.thomasse@ens-lyon.fr