Antoine Dailly

Curriculum Vitae

Work Experience

2022–2023 **Postdoc**, *Université Clermont Auvergne, LIMOS, Algorithms, Graphs, Complexity team*, Clermont-Ferrand, France.
Research on algorithmic aspects of metric problems in graphs in the ANR project GRALMECO under the supervision of Florent Foucaud.
Supervision of practical courses in Systems Programing (30h).

2021–2022 **ATER (assistant teacher and researcher)**, *IUT2 de Grenoble, G-SCOP, OC team*, Grenoble, France.
Tutorials and practical courses in Computer Science
Domains taught: Algorithms and Programming, Graphs, Probability and Statistics, Web Development.
Research in graphs and combinatorics.

2019–2021 **Postdoc**, *Instituto de Matemáticas, National Autonomous University of Mexico*, Juriquilla.
Research in graph theory and Ramsey theory, under the supervision of Adriana Hansberg.
Teaching in computability and complexity.

2018–2019 **ATER (assistant teacher and researcher)**, *Université Grenoble Alpes, G-SCOP, OC team*, Grenoble, France.
Tutorials and practical courses in Computer Science (135h)
Domains taught: Graphs, Complexity, Operational Research, Algorithmics, Programming in Python and Compilation.
Research in graphs and combinatorics (reconfiguration, combinatorial games, criticality).

2015–2018 **PhD in Computer Science (Ministry of Higher Education and Research funding)**, *Université Claude Bernard Lyon I, LIRIS, GOAL team*, Lyon, France.
Criticality, identification and vertex deletion games on graphs
Director: Hamamache Kheddouci.
Advisors: Aline Parreau et Éric Duchêne.
Defended on September 27th 2018.

2015–2018 **Assistant teacher**, *ISFA*, Lyon, France.
Lectures, tutorials and practical courses in Computer Science (198h)
Domains taught: Unix, Algorithmics, Programming in Python, C++ and Java

2015–2018 **Scientific popularization**, *Maths à Modeler*, Lyon, France.
Introduction to research in Mathematics and Theoretical Computer Science directed towards primary and secondary students

2011–2015 **Mentoring**.
Mentoring of secondary and superior students in Mathematics, Algorithmics, Theoretical Computer Science and Programming

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Education

2015–2018 **PhD in Computer Science**, *Université Claude Bernard Lyon I*.
Criticality, identification and vertex deletion games on graphs
Director: Hamamache Kheddouci
Advisors: Aline Parreau and Éric Duchêne
Defended on September 27th, 2018.

2014–2015 **Master's Degree in Computer Science – Artificial Intelligence specialization**, *Université Claude Bernard Lyon I*, Lyon, France, with honors, ranked 1/22.

2013–2014 **Master 1 in Computer Science**, *Université Claude Bernard Lyon I*, Lyon, France, with honors, ranked 2/98.

2012–2013 **Bachelor's Degree in Theoretical Computer Science**, *École Normale Supérieure de Lyon*, Lyon, France.

2011–2012 **Licence 2 in Mathematics and Computer Science**, *Université Montpellier II*, Montpellier, France, with honors.

2010–2011 **Classe Préparatoire aux Grandes Écoles – Mathematics, Physics and Industrial Sciences specialization**, *Lycée Pierre de Fermat*, Toulouse, France.

2010 **High School Diploma – Mathematics specialization**, *Lycée Georges Clemenceau*, Montpellier, France, with honors.

Research stays and internships

2017 **Research stay**, *Instituto de Matemáticas*, Juriquilla, Mexico.
Two-months research stay to study the Murty-Simon Conjecture.
Mentor: Adriana Hansberg.

2015 **Research internship**, *LIRIS – GOAL team*, Lyon, France.
Five-months internship on octal games on graphs.
Advisors: Aline Parreau and Éric Duchêne

2014 **Research internship**, *ERIC*, Lyon, France.
Two-months internship on the adaptation of multi-agents paradigm to the Map&Reduce model.
Advisor: Nadia Kabachi

2013 **Research internship**, *INRIA Sophia Antipolis – WIMMICS team*, Valbonne, France.
Three-months internship on semantic similarity measures.
Advisors: Elena Cabrio and Julien Cojan

Publications in international journals

J10 Daillya, A., & Sidorowicz, E. (2023). **Neighbour sum distinguishing edge-weightings with local constraints**, *Discrete Applied Mathematics*, 336, 109-124.
`https://hal.archives-ouvertes.fr/hal-03615738`

J09 Dailly, A., Eslava, L., Hansberg, A., & Ventura, D. (2023). **The balancing number and list balancing number of some graph classes**, *The Electronic Journal of Combinatorics*, 30(1)..
`https://hal.archives-ouvertes.fr/hal-03015201`

J08 Dailly, A., Duchêne, E., Parreau, A., & Sidorowicz, E. (2022). **The neighbour sum distinguishing relaxed edge colouring**, *Applied Mathematics and Computation*, 419, 126864..
https://hal.archives-ouvertes.fr/hal-03064954

J07 Dailly, A., Hansberg, A., & Ventura, D. (2021). **On the balanceability of some graph classes**, *Discrete Applied Mathematics*, 291, 51-63..
https://hal.archives-ouvertes.fr/hal-02497933

J06 Dailly, A., Duchêne, E., Larsson, U., & Paris, G. (2020). **Partition Games**, *Discrete Applied Mathematics*, 285, 509-525..
https://hal.archives-ouvertes.fr/hal-01723190

J05 Dailly, A., Moncel, J., & Parreau, A. (2019). **Connected Subtraction Games on Subdivided Stars**, *INTEGERS*, 19..
https://hal.archives-ouvertes.fr/hal-01849181

J04 Dailly, A., Foucaud, F., & Hansberg, A. (2019). **Strengthening the Murty-Simon conjecture on diameter 2 critical graphs**, *Discrete Mathematics*, 342(11), 3142-3159..
https://hal.archives-ouvertes.fr/hal-01959683

J03 Dailly, A., Gledel, V., & Heinrich, M. (2019). **A generalization of Arc-Kayles**, *International Journal of Game Theory*, 48(2), 491-511..
https://hal.archives-ouvertes.fr/hal-01587921

J02 Beaudou, L., Coupechoux, P., Dailly, A., Gravier, S., Moncel, J., Parreau, A., & Sopena, E. (2018). **Octal Games on Graphs: The game 0.33 on subdivided stars and bistars**, *Theoretical Computer Science*, 746, 19-35..
https://hal.archives-ouvertes.fr/hal-01418153

J01 Bousquet, N., Dailly, A., Duchene, E., Kheddouci, H., & Parreau, A. (2017). **A Vizing-like theorem for union vertex-distinguishing edge coloring**, *Discrete Applied Mathematics*, 232, 88-98..
https://hal.archives-ouvertes.fr/hal-01313088

Publications in proceedings of international conferences

C1 Chakraborty, D., Dailly, A., Das, S., Foucaud, F., Gahlawat, H., & Ghosh, S. K. (2022). **Complexity and algorithms for Isometric Path Cover on chordal graphs and beyond** , *Proceedings of the 33rd International Symposium on Algorithms and Computation (ISAAC 2022), Leibniz International Proceedings in Informatics*, 248,12:1-12:17.
https://hal.archives-ouvertes.fr/hal-03710812

Papers submitted in international journals

Nothing for now!.

Talks in international conferences and colloquiums

June 2023 ***Algorithms and hardness for Metric Dimension on digraphs*** , *WG2023*, Fribourg, Switzerland.

January 2023 ***Subtraction Games on Graphs***, *CGTC3*, São Miguel, Azores, Portugal.

July 2022 ***Neighbour sum-distinguishing edge colorings with local constraints***, *ICGT 2022*, Montpellier, France.

January 2019 ***Connected Subtraction Games on Graphs*** , *CGTC3*, Lisbon, Portugal.

July 2018 ***A strengthening of the Murty-Simon Conjecture***, *ICGT 2018*, Lyon, France.

January 2017 ***Octal Games on Graphs*** , *CGTC2*, Lisbon, Portugal.

November 2016 ***A Vizing-like theorem for union vertex-distinguishing edge coloring***, *BGW 2016*, Bordeaux, France.

Talks in national conferences and colloquiums

November 2022 ***Isometric Path Cover : complexité et algorithmes sur les graphes cordaux***, *JGA 2022*, Paris, France.

November 2021 ***La coloration d-relaxée somme-distinguante*** , *JGA 2021*, Online.

November 2020 ***Équilibrabilité et nombre d'équilibrage des cycles***, *JGA 2020*, Online.

March 2020 ***Balancing graphs using bicolored edges***, *XXXV Coloquio Víctor Neumann-Lara de Teoría de Gráficas, Combinatoria y su Aplicaciones*, Santiago de Querétaro, Mexico.

November 2018 ***Renforcer la conjecture de Murty-Simon sur les graphes critiques de diamètre 2*** , *JGA 2018*, Grenoble, France.

November 2016 ***Coloration d'arêtes union-distinguante***, *JGA 2016*, Paris, France.

November 2015 ***Jeux octaux sur les graphes : 0.03***, *JGA 2015*, Orléans, France.

Talks in seminars

March 2023 ***Algorithms for the Metric Dimension problem on directed graphs***, *Séminaire d'équipe GALaC du LISN*, Paris.

March 2023 ***Algorithms for the Metric Dimension problem on directed graphs***, *Séminaire algorithmique distribuée et graphes de l'IRIF*, Paris.

March 2023 ***Algorithmes pour la Dimension Métrique dans les graphes dirigés***, *Séminaire LIMOS*, Clermont-Ferrand.

February 2023 ***Algorithmes pour la Dimension Métrique dans les graphes dirigés***, *Séminaire Algo*, Caen.

October 2022 ***Balanceability***, *Séminaire AlCoLoCo*, Clermont-Ferrand.

March 2022 ***Subtraction Games on Graphs: Complexity, regularity and polynomial algorithms***, *Séminaire LIGM*, Paris (Champs-sur-Marne).

October 2021 ***Équilibrabilité***, *Séminaire de mathématiques discrètes*, Grenoble.

October 2021 ***Strengthening the Murty-Simon Conjecture on diameter-2-critical graphs*** , *VCU Discrete Mathematics Seminar*, Virginia Commonwealth University (online).

February 2021 ***Équilibrabilité***, *Séminaire ACRO*, Marseille, France (online).

Octobre 2020 ***Jeux de soustraction dans les graphes : Complexité et algorithmes polynomiaux***, *Groupe de travail GaMoC*, Orléans, France.

September 2019 ***A strengthening of the Murty-Simon Conjecture for diameter 2 critical graphs***, *Seminario Preguntón*, UNAM Juriquilla, Mexico.

April 2019 ***Jeux octaux dans les graphes***, *Séminaire LIS*, Marseille.

March 2019 ***Jeux octaux dans les graphes***, *Séminaire LIB*, Dijon.

January 2019 ***Jeux octaux dans les graphes***, *Séminaire Optimisation Combinatoire*, Bordeaux.

December 2018 ***Jeux octaux dans les graphes***, *Séminaire AlCoLoCo*, Clermont-Ferrand.

December 2017 ***Rooks and* Arc-Kayles**, *Seminario Preguntón*, UNAM Juriquilla, Mexico.

April 2016 ***Coloration d'arêtes union-distinguante***, *SIF PhD students' seminar*, Paris, France.

October 2015 ***Octal games on graphs : 0.03 and 0.33*** , *Graphes@Lyon*, Lyon, France.

Posters

January 2020 ***Gráficas balanceables***, UNAM Juriquilla, Mexico.

Responsibilities

2023 **Intern supervision**.
Pritam Acharya (L3, IISER Pune, India) on isometric path partition.

2013–2015 **Voluntary activities**, *AML (Association des Miagistes et Informaticiens de Lyon), a student organization*, Lyon, France.
Active volunteer (2013–2014), then secretary of the organization (2014–2015)

2013–2015 **Student representative**, *Computer Science Department Council*, Lyon, France.
2013–2015

Special Skills

French	Native speaker	
English	Fluent, C1 level	*B2 level validated by the CLES in 2013*
Spanish	Basic	
Theoretical Computer Science	Algorithmics, Combinatorial Game Theory, Graph Theory, Complexity Theory	
Programming Languages	C/C++, Python, Java, LaTeX, Scheme	
Systems	Linux, Windows	

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