

# Curriculum Vitae

## Civil state

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## 1 Training

Dec. 2015 - current	<b>Chargée de Recherches CNRS</b> (LaBRI, France). Permanent research-only position.
Sept. 2015 - Nov. 2015	<b>Postdoctoral student at University of Waterloo</b> with Luke Postle.
Sept. 2011 - Aug. 2015	<b>PhD at LIRMM</b> (Montpellier, France) with Benjamin Lévêque and Alexandre Pinlou. Title: Global discharging methods for coloring problems in graphs.
2011	<b>Master de Recherche en Informatique</b> (Master studies in Theoretical Computer Science), École Normale Supérieure de Lyon.

## 2 Various responsibilities

<b>PhD advisor</b>	<b>Théo Pierron</b> ( <i>Induction schemes: from languages separation to graph colorings</i> , co-supervised with Éric Sopena and Marc Zeitoun): defended on July 8th 2019, now an associate professor in Lyon. <b>Paul Ouvrard</b> ( <i>Combinatorial reconfiguration</i> , co-supervised with Paul Dorbec and Cyril Gavoille): defense planned in Winter 2020. <b>Alexandre Blanché</b> ( <i>Decomposing a graph into elementary structures</i> , co-supervised with Nicolas Bonichon): defense planned in Summer 2021.
<b>PC Member</b>	FCT 2019, LAGOS 2019, MFCS 2019, EuroComb 2019, IWOCA 2020, Algotel 2020, IPEC 2020, CanaDAM 2021
<b>PhD Juries</b>	Tien-Nam Lê (ENS de Lyon, 2018: examiner), Mehdi Khosravian (Université Paris-Dauphine, 2019: examiner), Torstein Strømme (University of Bergen, 2020: opponent).
<b>Editor</b>	Discrete Mathematics, Annals of Combinatorics
<b>Invited speaker</b>	Scottish Combinatorics Meeting 2017 (Glasgow), 8th Cracow Conference on Graph Theory 2018 (Rytro), Journées Graphes et Algorithmes 2018 (Grenoble), CanaDAM 2019 (Vancouver), DIMEA Days 2019 (Brno), Cycles & Colourings 2019 (Novy Smokovec), Ecole Jeunes Chercheurs Informatique Mathématique 2020 (Bordeaux), British Combinatorics Conference 2021 (Durham), GROW 2021 (Koper).

### 3 Research

#### International conferences

1. **2-distance coloring of sparse graphs**, EUROCOMB'11, with Benjamin Lévêque and Alexandre Pinlou.
2. **On the diameter of reconfiguration graphs for vertex colouring**, EUROCOMB'11, with M. Johnson, I. Lignos, V. Patel and D. Paulusma.
3. **Recoloring bounded treewidth graphs**, LAGOS'13, with N. Bousquet.
4. **Adjacent vertex-distinguishing edge coloring of graphs**, EUROCOMB'13, with Nicolas Bousquet and Hervé Hocquard.
5. **Planar graphs with  $\Delta \geq 8$  are  $(\Delta + 1)$ -edge-choosable**, EUROCOMB'13.
6. **A 14k-kernel for Planar Feedback Vertex Set via Region Decomposition**, IPEC 2014, with Łukasz Kowalik.
7. **Strong edge coloring sparse graphs**, EUROCOMB'15, with Julien Bensmail and Hervé Hocquard.
8. **Linear kernels for outbranching problems in sparse digraphs**, IPEC 2015, with Łukasz Kowalik, Michał Pilipczuk and Arkadiusz Socała.
9. **Tight lower bounds for the complexity of multicoloring**, ESA 2017, with Łukasz Kowalik, Michał Pilipczuk, Arkadiusz Socała and Marcin Wrochna.
10. **Token Sliding in Chordal Graph**, WG 2017, with Nicolas Bousquet.
11. **Recognizing Graphs Close to Bipartite Graphs**, MFCS 2017, with Konrad K. Dabrowski, Carl Feghali, Matthew Johnson and Daniël Paulusma.
12. **The Interactive Sum Choice Number of Graphs**, EUROCOMB 2017, with Kitty Meeks.
13. **Independent Feedback Vertex Set for P5-free Graphs**, ISAAC 2017, with Konrad K. Dabrowski, Carl Feghali, Matthew Johnson and Daniël Paulusma.
14. **On Directed Feedback Vertex Set parameterized by treewidth**, WG 2018, with Łukasz Kowalik, Jesper Nederlof, Michał Pilipczuk, Arkadiusz Socała and Marcin Wrochna.
15. **Distributed coloring in sparse graphs with fewer colors**, PODC 2018, with Pierre Aboulker, Nicolas Bousquet and Louis Esperet.
16. **Distributed Recoloring**, DISC 2018, with Paul Ouvrard, Mikaël Rabie, Jukka Suomela and Jara Uitto.
17. **EPTAS for Max Clique on Disks and Unit Balls**, FOCS 2018, with Édouard Bonnet, Nicolas Bousquet, Pierre Charbit and Stéphan Thomassé.
18. **Enumerating Minimal Dominating Sets in Triangle-Free Graphs**, STACS 2019, with Oscar Defrain, Marc Heinrich and Jean-Florent Raymond.
19. **Asymptotically good local list edge colorings**, EUROCOMB 2019, with Michelle Delcourt, Richard Lang and Luke Postle.
20. **Graph Isomorphism for  $(H_1, H_2)$ -free Graphs: An Almost Complete Dichotomy**, WADS 2019, with Konrad K. Dabrowski, Matthew Johnson and Daniël Paulusma.
21. **The Perfect Matching Reconfiguration Problem**, MFCS 2019, with Nicolas Bousquet, Marc Heinrich, Takehiro Ito, Yusuke Kobayashi, Arnaud Mary, Moritz Mühlenthaler and Kunihiro Wasa.

- 22. **Diameter of Colorings Under Kempe Changes**, COCOON 2019, with Marc Heinrich, Takehiro Ito, Yusuke Kobayashi, Moritz Mühlenhaller, Akira Suzuki and Kunihiro Wasa.
- 23. **Shorter Labeling Schemes for Planar Graphs**, SODA 2020, with Cyril Gavoille and Michał Pilipczuk.
- 24. **Reconfiguration of Colorings under Kempe-changes**, STACS 2020, with Marc Heinrich, Takehiro Ito, Yusuke Kobayashi, Moritz Mühlenhaller, Akira Suzuki and Kunihiro Wasa.
- 25. **Limiting crossing numbers for geodesic drawings on the sphere**, GRAPH DRAWING 2020, with Bojan Mohar and Alexandra Wesolek.

**International journals**

- 26. **Reconfiguration graphs for vertex colourings of chordal and chordal bipartite graphs**, Journal of Combinatorial Optimization 27(1): 132-143 (2014), with Matthew Johnson, Ioannis Lignos, Viresh Patel and Daniel Paulusma.
- 27. **Graphs with maximum degree  $\Delta \geq 17$  and maximum average degree less than 3 are list 2-distance  $(\Delta + 2)$ -colorable**, Discrete Mathematics 317: 19–32 (2014), with Benjamin Lévêque and Alexandre Pinlou.
- 28. **2-distance coloring of sparse graphs**, Journal of Graph Theory 77: 190–218 (2014), with Benjamin Lévêque and Alexandre Pinlou.
- 29. **Brook’s theorem on powers of graphs**, Discrete Mathematics 325: 12–16 (2014), with Nicolas Bousquet.
- 30. **List coloring the squares of sparse graphs with large degree**, European Journal of Combinatorics 41: 128–137 (2014), with Benjamin Lévêque and Alexandre Pinlou.
- 31. **Planar graphs with  $\Delta \geq 7$  and no triangle adjacent to a  $C_4$  are minimally edge- and totally-choosable**, Discrete Mathematics and Theoretical Computer Science, with Benjamin Lévêque and Alexandre Pinlou.
- 32. **Planar graphs with  $\Delta \geq 8$  are  $(\Delta + 1)$ -edge-choosable**, SIAM Journal on Discrete Mathematics 29(3): 1735–1763 (2015).
- 33. **List coloring with a bounded palette**, Journal of Graph Theory, to appear (2015), with Ross Kang.
- 34. **The Erdős-Hajnal conjecture for long holes and anti-holes**, SIAM Journal on Discrete Mathematics 30(2): 1159–1164 (2016), with Nicolas Bousquet and Stéphan Thomassé.
- 35. **A 13k-kernel for Planar Feedback Vertex Set via Region Decomposition**, Theoretical Computer Science, to appear (2016), with Łukasz Kowalik.
- 36. **On the neighbour sum distinguishing index of planar graphs**, Journal of Graph Theory (2016), with Jakub Przybyło.
- 37. **On the difference between the Szeged and Wiener index**, Applied Mathematics and Computation (2017), with Martin Knor, Borut Lužar, Alexandre Pinlou and Riste Škrekovski.
- 38. **Incidence coloring of graphs with high maximum average degree**, Discrete Applied Mathematics (2017), with Hervé Hocquard, Samia Kerdjoudj and André Raspaud.
- 39. **Linear kernels for outbranching problems in sparse digraphs**, Algorithmica (2017), with Łukasz Kowalik, Michał Pilipczuk and Arkadiusz Socała.

40. **Recoloring graphs via tree decompositions**, European Journal of Combinatorics (2018), with Nicolas Bousquet.
41. **Independent Feedback Vertex Sets for Graphs of Bounded Diameter**, Information Processing Letters (2018), with Konrad K. Dabrowski, Carl Feghali, Matthew Johnson and Daniël Paulusma.
42. **Planar Graphs of Girth at least Five are Square  $(\Delta + 2)$ -Choosable**, Journal of Combinatorial Theory, Series B (2018), with Dan Cranston and Luke Postle.
43. **On a conjecture of Mohar concerning Kempe equivalence of regular graphs**, Journal of Combinatorial Theory, Series B (2018), with Nicolas Bousquet, Carl Feghali and Matthew Johnson.
44. **Independent Feedback Vertex Set for  $P_5$ -free Graphs**, Algorithmica (2018), with Konrad K. Dabrowski, Carl Feghali, Matthew Johnson and Daniël Paulusma.
45. **Tight Lower Bounds for the Complexity of Multicoloring**, ACM Transactions on Computation Theory (2019), with Łukasz Kowalik, Michał Pilipczuk, Arkadiusz Socała and Marcin Wrochna.
46. **Gallai's path decomposition conjecture for graphs of small maximum degree**, Discrete Mathematics (2019), with Thomas Perrett.
47. **Distributed coloring in sparse graphs with fewer colors**, The Electronic Journal of Combinatorics (2019), with Pierre Aboulker, Nicolas Bousquet and Louis Esperet.
48. **The structure of binary matroids with no induced claw or Fano plane restriction**, Advances in Combinatorics (2019), with František Kardoš, Tom Kelly, Peter Nelson and Luke Postle.
49. **Partitioning the vertices of a torus into isomorphic subgraphs**, Journal of Combinatorial Theory, series A (2020), with Natasha Morrison and Alex Scott.
50. **Enumerating minimal dominating sets in  $K_t$ -free graphs and variants**, ACM Transactions on Algorithms (2020), with Oscar Defrain, Marc Heinrich, Michał Pilipczuk and Jean-Florent Raymond.
51. **Graph Isomorphism for  $(H_1, H_2)$ -free Graphs: An Almost Complete Dichotomy**, Algorithmica (2020), with Nicolas Bousquet, Konrad K. Dabrowski, Matthew Johnson, Daniël Paulusma and Théo Pierron.
52. **Revisiting a theorem by Folkman on graph colouring**, the Electronic Journal of Combinatorics (2020), with Pierre Charbit, Oscar Defrain, Gwénaél Joret, Aurélie Lagoutte, Vincent Limouzy, Lucas Pastor and Jean-Sébastien Sereni.
53. **Graphs of bounded cliquewidth are polynomially  $\chi$ -bounded**, Advances in Combinatorics (2020), with Michał Pilipczuk.

Submitted  
papers

[See on ArXiv](#)