



LAGOS 2017

IX Latin and American Algorithms, Graphs, and Optimization Symposium

September 11-15, 2017

CIRM, Marseille, France

lagos2017-org@lipn.univ-paris13.fr

LAGOS 2017 – Detailed Program

Sunday, September 10th

14:00 - Arrival at CIRM

19:30 Cold dinner

Monday, September 11th

07:30 - 08:45 Breakfast

09:00 Opening ceremony (Amphi)

10:00 Plenary Session (Amphi). Chair: Antoine Deza

Christoph Dürr: An adversarial model for optimization and testing 10

11:00 Coffee break

11:30 Amphi. Chair: Annegret K. Wagler

Recovery of disrupted airline operations using k-Maximum Matching in graphs
by Julien Bensmail, Valentin Garnero, Nicolas Nisse*, Alexandre Salch and Valentin
Weber 11

Minimum density of identifying codes of king grids
by Rennan Dantas, Frédéric Havet* and Rudini Sampaio 12

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| 11:30 | Room A. Chair: Orlando Lee | |
| | Biclique graph of bipartite permutation graphs | |
| | by <i>Marina Groshaus, André L. P. Guedes* and Juan Pablo Puppó</i> | 13 |
| | A column generation approach for the strong network orientation problem | |
| | by <i>Alexandre Xavier Martins*, Christophe Duhamel and Andréa Cynthia Santos</i> . . . | 14 |
| 12:30 | Lunch | |
| 15:00 | Plenary Session (Amphi). Chair: Frédéric Maffray | |
| | András Sebő: Matchings, Matroids and Polyhedra for Approximating the Traveling Salesman Problem | 15 |
| 16:05 | Amphi. Chair: Lionel Pournin | |
| | Ramsey for complete graphs with a dropped edge or a triangle | |
| | by <i>Luis Pedro Montejano*, Jonathan Chappelon and Jorge Luis Ramírez Alfonsín</i> . | 16 |
| | Computational determination of the largest lattice polytope diameter | |
| | by <i>Nathan Chadder and Antoine Deza*</i> | 17 |
| 16:05 | Room A. Chair: Claudson Ferreira Bornstein | |
| | Intersection Graphs of Orthodox Paths in Trees | |
| | by <i>Claudson Ferreira Bornstein, José Wilson Coura Pinto* and Dieter Rautenbach</i> . | 18 |
| | Maximum Cuts in Edge-colored Graphs | |
| | by <i>Rubens Sucupira*, Luerbio Faria, Sulamita Klein, Ignasi Sau and Uéverton S. Souza</i> | 19 |
| 17:00 | Coffee break | |
| 17:25 | Plenary Session (Amphi). Chair: Guillermo Durán | |
| | Martín Safe: Forbidden subgraphs of some graphs representable by arcs on a circle | 20 |
| 18:30 | Welcome cocktail | |
| 19:30 | Dinner | |

Tuesday, September 12th

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| 07:30 - 08:45 | Breakfast | |
| 09:00 | Plenary Session (Amphi). Chair: Juan C. Vera | |
| | Monique Laurent: Combinatorial and algorithmic properties of Robinsonian matrices | 21 |
| 10:05 | Amphi. Chair: Martin Golumbic | |
| | Correspondence Homomorphisms to Reflexive Graphs | |
| | by <i>Tomás Feder and Pavol Hell*</i> | 22 |

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| 10:05 | Room A. Chair: Manoel Campêlo Minimum Linear Arrangements by <i>Rafael Andrade*</i> , <i>Tibérius Bonates</i> , <i>Manoel Campêlo</i> and <i>Mardson Ferreira</i> . . . | 23 |
| 10:30 | Coffe break | |
| 10:55 | Amphi. Chair: Frédérique Bassino On the local density problem for graphs of given odd-girth by <i>Wiebke Bedenknecht*</i> , <i>Guilherme Oliveira Mota</i> , <i>Christian Reiher</i> and <i>Mathias Schacht</i> | 24 |
| 10:55 | Room A. Chair: Rafael Andrade The Solitaire Clobber game and correducibility by <i>Simone Dantas</i> , <i>Rodrigo Marinho*</i> and <i>Slobodan Tanushevski</i> | 25 |
| 11:25 | Plenary Session (Amphi). Chair: Juan C. Vera Alexander Schrijver: The Partially Disjoint Paths Problem | 26 |
| 12:30 | Lunch | |
| 15:00 | Plenary Session (Amphi). Chair: Bernard Ries Maria Chudnovsky: Coloring graphs with forbidden induced subgraphs | 27 |
| 16:05 | Amphi. Chair: Pablo De Caria Clique cutsets beyond chordal graphs by <i>Valerio Boncompagni</i> , <i>Irena Penev*</i> and <i>Kristina Vušković</i> Weighted upper domination number by <i>Arman Boyaci*</i> and <i>Jérôme Monnot</i> | 28 29 |
| 16:05 | Room A. Chair: Alexandre Xavier Martins The lexicographic product of some chordal graphs and of cographs preserves b-continuity by <i>Cláudia Linhares Sales</i> , <i>Leonardo Sampaio</i> and <i>Ana Silva*</i> On Generalizations of the Parking Permit Problem and Network Leasing Problems by <i>Murilo S. de Lima*</i> , <i>Mário César San Felice</i> and <i>Orlando Lee</i> | 30 31 |
| 17:00 | Coffee break | |
| 17:30 | Amphi. Chair: Nicolas Nisse Bispindle in strongly connected digraphs with large chromatic number by <i>Nathann Cohen</i> , <i>Frédéric Havet*</i> , <i>William Lochet</i> and <i>Raul Lopes</i> Locally self-avoiding Eulerian tours by <i>Tien-Nam Le*</i> Gallai's Conjecture for graphs with treewidth 3 by <i>Fábio Botler*</i> and <i>Maycon Sambinelli</i> | 32 33 34 |

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| 17:30 | Room A. Chair: Graciela Nasini | |
| | Fleet management for autonomous vehicles using flows in time-expanded networks | |
| | by <i>Sahar Bsaybes, Alain Quilliot and Annegret K. Wagler*</i> | 35 |
| | The minimum chromatic violation problem: a polyhedral study | |
| | by <i>Mónica Braga, Diego Delle Donne, Mariana Escalante*, Javier Marenco, María Elisa Ugarte and María del Carmen Varaldo</i> | 36 |
| | A linear-time algorithm for the identifying code problem on block graphs | |
| | by <i>Gabriela R. Argiroffo, Silvia M. Bianchi*, Yanina Lucarini and Annegret K. Wagler</i> | 37 |

19:30 Dinner

Wednesday, September 13th

07:30 - 08:45 Breakfast

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| 09:00 | Plenary Session (Amphi). Chair: Martín Matamala | |
| | Marcos Kiwi: The Random Hyperbolic Graph Model | 38 |

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| 10:05 | Amphi. Chair: Celina M. H. Figueiredo | |
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| 10:05 | Room A. Chair: Arman Boyacı | |
| | Möbius Stanchion Systems | |
| | by <i>Lucas Isenmann* and Timothée Pecatte</i> | 41 |
| | An Approximation Algorithm for the p -Hub Median Problem | |
| | by <i>Camile Frazão Bordini* and André Luís Vignatti</i> | 42 |

11:00 Coffe break

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| 11:25 | Amphi. Chair: Irena Penev | |
| | On the recognition of neighborhood inclusion posets | |
| | by <i>Pablo De Caria*</i> | 43 |
| | Detecting an induced subdivision of K_4 | |
| | by <i>Ngoc Khang Le*</i> | 44 |

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| 11:25 | Room A. Chair: Uéverton S. Souza | |
| | On Type 2 Snarks and Dot Products | |
| | by <i>Luana Cordeiro*, Simone Dantas and Diana Sasaki</i> | 45 |
| | AVD-edge coloring on powers of paths | |
| | by <i>Mayara M. Omai*, Sheila M. de Almeida and Diana Sasaki</i> | 46 |

12:30 Lunch

14:00 Excursion in boat

19:30 Dinner

Thursday, September 14th

07:30 - 08:45 Breakfast

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| 09:00 | Plenary Session (Amphi). Chair: Luciano Grippo Martin Milanič: Reconstructing perfect phylogenies via binary matrices, branchings in DAGs, and a generalization of Dilworth's theorem | 47 |
| 10:05 | Amphi. Chair: Lionel Pournin Facets of the polytope of legal sequences by <i>Manoel Campêlo and Daniel Severín*</i> | 49 |
| 10:05 | Room A. Chair: Mario Valencia-Pabon Hyper-Hamiltonicity in graphs: some sufficient conditions by <i>Renata R. Del-Vecchio*, Cybele T. M. Vinagre and Guilherme B. Pereira</i> | 50 |
| 10:30 | Coffe break | |
| 10:55 | Amphi. Chair: Lionel Pournin Scaffolding skeletons using spherical Voronoi diagrams by <i>Alvaro Javier Fuentes Suárez* and Evelyne Hubert</i> | 51 |
| 10:55 | Room A. Chair: Mario Valencia-Pabon On graphs with a single large Laplacian eigenvalue by <i>Luiz Emilio Allem, Antonio Cafure, Ezequiel Dratman, Luciano N. Grippo*, Martín Safe and Vilmar Trevisan</i> | 52 |
| 11:25 | Plenary Session (Amphi). Chair: Andreas Brandstädt Dieter Rautenbach: Restricted Types of Matchings | 53 |
| 12:30 | Lunch | |
| 14:30 | Plenary Session (Amphi). Chair: Pavol Hell Celina Figueiredo: Complexity-separating graph classes for vertex, edge and total colouring | 54 |
| 15:35 | Amphi. Chair: Ana Silva Graphs admitting antimagic labeling for arbitrary sets of positive integers by <i>Martín Matamala* and José Zamora</i> | 55 |
| | The Geodetic Hull Number is Hard for Chordal Graphs by <i>Stéphane Bessy, Mitre C. Dourado, Lucia D. Penso* and Dieter Rautenbach</i> | 56 |
| | Ruling out FPT algorithms for Weighted Coloring on forests by <i>Júlio Araújo, Julien Baste and Ignasi Sau*</i> | 57 |

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| 15:35 | Room A. Chair: Fábio Botler | |
| | Structure and Interpretation of Dual-Feasible Functions | |
| | by <i>Matthias Köppe and Jiawei Wang*</i> | 58 |
| | Inapproximability Ratios for Crossing Number | |
| | by <i>Rafael Veiga Poci*</i> | 59 |
| | Advances in Aharoni-Hartman-Hoffman’s Conjecture for Split digraphs | |
| | by <i>Maycon Sambinelli*, Cândida Nunes da Silva and Orlando Lee</i> | 60 |
| 17:00 | Coffee break | |
| 17:30 | Amphi. Chair: Ignasi Sau | |
| | Reducing the Chromatic Number by Vertex or Edge Deletions | |
| | by <i>Christophe Picouleau*, Daniël Paulusma and Bernard Ries</i> | 61 |
| | Approximating the cone of copositive kernels to estimate the stability number of infinite graphs | |
| | by <i>Olga Kuryatnikova* and Juan C. Vera</i> | 62 |
| | Strong intractability of generalized convex recoloring problems | |
| | by <i>Phablo F. S. Moura* and Yoshiko Wakabayashi</i> | 63 |
| 17:30 | Room A. Chair: Frédérique Bassino | |
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| | On cliques and bicliques | |
| | by <i>Miguel Pizaña and Ismael A. Robles</i> | 65 |
| | On the Existence of Critical Clique-Helly Graphs | |
| | by <i>Liliana Alcón, Miguel Pizaña and Gabriela Ravenna*</i> | 66 |
| 19:30 | Special Dinner ! | |

Friday, September 15th

07:30 - 08:45 Breakfast

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| | Claudia Linhares Sales: <i>b</i> -colorings: an structural overview | 67 |
| 10:05 | Amphi. Chair: Maycon Sambinelli | |
| | A 3-approximation algorithm for the maximum leaf <i>k</i> -forest problem | |
| | by <i>Márcio Félix Reis, Mário César San Felice, Orlando Lee* and Fábio Luiz Usberti</i> | 68 |
| | Transversals of Longest Paths | |
| | by <i>Márcia R. Cerioli, Cristina G. Fernandes, Renzo Gómez, Juan Gutiérrez* and Paloma T. Lima</i> | 69 |

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| 10:05 | Room A. Chair: Christophe Picouleau | |
| | Delta–Wye Transformations and the Efficient Reduction of Almost–Planar Graphs by <i>Isidoro Gitler*</i> and <i>Gustavo Sandoval–Angeles</i> | 70 |
| | Bounds on Directed star arboricity in some digraph classes by <i>Henri Perret du Cray*</i> , <i>Mourad Baiou</i> , <i>Laurent Beaudou</i> and <i>Vincent Limouzy</i> | 71 |
| 11:00 | Coffe break | |
| 11:25 | Amphi. Chair: Rosiane de Freitas | |
| | Simple Undirected Two-Commodity Integral Flow with a Unitary Demand by <i>Alexsander A. Melo*</i> , <i>Celina M. H. Figueiredo</i> and <i>Uéverton S. Souza</i> | 72 |
| | Facet-inducing inequalities and a cut-and-branch for the bandwidth coloring polytope based on the orientation mode by <i>Bruno Dias</i> , <i>Rosiane de Freitas*</i> , <i>Nelson Maculan</i> and <i>Javier Marenco</i> | 73 |
| 11:25 | Room A. Chair: Mario Valencia-Pabon | |
| | Tropical matchings in vertex-colored graphs by <i>Johanne Cohen</i> , <i>Yannis Manoussakis</i> , <i>Hong Phong Pham*</i> and <i>Zsolt Tuza</i> | 74 |
| | On the maximum density of fixed strongly connected subtournaments by <i>Leonardo N. Coregliano</i> , <i>Roberto F. Parente</i> and <i>Cristiane M. Sato</i> | 75 |
| 12:30 | Lunch | |
| 15:00 | Departure from CIRM | |