LAGOS 2013

VII Latin-American Algorithms, Graphs, and Optimization Symposium
April 22-26, 2013
Playa del Carmen, Quintana Roo, Mexico

Program

Tuesday, April 23rd, 2013

Room "Los Cabos"

9:00am-9:50am, Plenary   Chair: *Miguel Pizaña*

Generalizing convexity via linear cross-sections
by *Ferran Hurtado*.

9:50am-10:05am ——————— **Break** ———————

Room "Los Cabos"	Room "Riviera Maya"
Session: Graph Theory I Chair: *Miguel Pizaña*	Session: Algorithms I Chair: *Gelasio Salazar*

10:05am-10:30am

More on connector families
by *Gérard Cohen, Emanuela Fachini, János Körner*.

The generalized split probe problem
by *Simone Dantas, Luerbio Faria, Celina M. H. de Figueiredo, Rafael B. Teixeira*.

10:30am-10:55am

Special asteroidal quadruple on directed path graph non rooted path graph
by *Marisa Gutierrez, Silvia B. Tondato*.

A New Formulation and Computational Results for the Simple Cycle Problem
by *Abilio Lucena, Alexandre Salles da Cunha, Luidi Simonetti*.

10:55AM-11:10AM ———————————— **Break** ————————————

Room "Los Cabos"

Session: Chordal Graphs
Chair: *Liliana Alcón*

11:10AM-11:35AM
Obstructions to chordal circular-arc graphs of small independence number
by *Mathew Francis, Pavol Hell, Juraj Stacho*.

11:35AM-12:00PM
$\{k\}$-domination for chordal graphs and related graph classes
by *Gabriela Argiroffo, Valeria Leoni, Pablo Torres*.

12:00PM-12:25PM
Introducing subclasses of basic chordal graphs
by *Pablo De Caria, Marisa Gutierrez*.

Room "Riviera Maya"

Session: Codes
Chair: *Annegret Wagler*

A 'Hot Potato' Gray Code for Permutations
by *Xi Sisi Shen, Aaron Williams*.

Polyhedra associated with identifying codes
by *Gabriela R. Argiroffo, Silvia M. Bianchi, Annegret K. Wagler*.

Greedy Pancake Flipping
by *Aaron Williams, Joe Sawada*.

12:25PM-12:40PM ———————————— **Break** ————————————

Room "Los Cabos"

12:40PM-1:30PM, Plenary   Chair: *Annegret Wagler*

A survey on the algorithms for the minimum weighted clique cover problem in claw-free perfect graphs
by *Flavia Bonomo*.

1:30PM-3:00PM ———————————— **Lunch** ————————————

Room "Los Cabos"

3:00PM-3:50PM, Plenary   Chair: *Rita Zuazua*

The Practice of Graph Isomorphism
by *Brendan D. McKay*.

3:50PM-4:10PM   ——————————— **Break** ———————————

Room "Los Cabos"	**Room "Riviera Maya"**
Session: Matchings in Graphs	Session: Colorings and Algorithms
Chair: *Rita Zuazua*	Chair: *Mario Valencia-Pabon*

4:10PM-4:35PM

Matchings in Graphs of Odd Regularity and Girth	Algorithms to Approximately Count and Sample Conforming Colorings of Graphs
by *Vitor Costa, Simone Dantas, Dieter Rautenbach*.	by *Sarah Miracle, Dana Randall*.

4:35PM-5:00PM

Small degree vertices in minimal bricks	An exact DSatur-based algorithm for the Equitable Coloring Problem
by *Henning Bruhn, Maya Stein*.	by *Isabel Méndez-Díaz, Graciela Nasini, Daniel Severín*.

Room "Los Cabos"

17:00-17:50   ——————————— **Poster Session** ———————————

Wednesday, April 24th, 2013

Room "Los Cabos"

9:00AM-9:50AM, Plenary　　　　　　　　　　　　　　　　　　　Chair: *Fábio Protti*

The crossing number of the complete graph
by *Silvia Fernández-Merchant*.

9:50AM-10:05AM ——————————— **Break** ———————————

Room "Los Cabos"

Session: Intersection Graphs
Chair: *Fábio Protti*

10:05AM-10:30AM
On minimal non [h,2,1] graphs
by *Liliana Alcón, Marisa Gutierrez, María Pía Mazzoleni*.

Room "Riviera Maya"

Session: Colorings and Algorithms
Chair: *Mario Valencia-Pabon*

On k-critical P_5-free graphs
by *Chính T. Hoàng, Brian Moore, Daniel Recoskie, Joe Sawada*.

Room "Los Cabos"

Session: Intersection Graphs
Chair: *Fábio Protti*

10:30AM-10:55AM
Edge Intersection Graphs of L-Shaped Paths in Grids
by *Kathie Cameron, Steven Chaplick, Chính T. Hoàng*.

Room "Riviera Maya"

Session: Algorithms II
Chair: *Luerbio Faria*

Models and Algorithms for Carsharing Systems and Related Problems
by *Sven O. Krumke, Alain Quilliot, Annegret K. Wagler, Jan-Thierry Wegener*.

10:55AM-11:10AM ——————————— **Break** ———————————

Room "Los Cabos"	**Room "Riviera Maya"**
Session: Perfect Graphs Chair: *Rafael Villarroel*	Session: Algorithms II Chair: *Luerbio Faria*

11:10AM-11:35AM

Searching for perfection on hypergraphs by <u>Deborah Oliveros-Braniff</u>, Natalia Garcia-Colin, Amanda Montejano, Luis Montejano.	Linear time computation of the maximal sums of insertions into all positions of a sequence by <u>Pablo M. S. Farias</u>, Ricardo C. Corrêa.

11:35AM-12:00PM

The $\omega\psi$-perfection of graphs by <u>G. Araujo-Pardo</u>, C. Rubio-Montiel.	Approximating connected facility location with buy-at-bulk edge costs via random sampling by <u>Andreas Bley</u>, Mohsen Rezapour.

Room "Los Cabos"

12:00PM-12:50PM, Plenary   Chair: *Rafael Villarroel*

Typical structure of graph homomorphisms
by <u>Wojciech Samotij</u>.

12:50PM-2:00PM ———————— **Lunch** ————————

Thursday, April 25th, 2013

Room "Los Cabos"

9:00AM-9:50AM, Plenary   Chair: *Amanda Montejano*

Flip Distances in Triangulations
by *Oswin Aichholzer*.

9:50AM-10:05AM ———————— **Break** ————————

Room "Los Cabos"

Session: Convexity in Graphs
Chair: *Mitre Costa Dourado*

10:05AM-10:30AM
On Minimal and Minimum Hull Sets
by *Rommel Barbosa, Dieter Rautenbach,*
Vinícius Fernandes dos Santos, Jayme L.
Szwarcfiter.

10:30AM-10:55AM
Polyhedral studies on the convex recoloring
problem
by *Manoel Campêlo, Karla R. Lima*
Phablo F. S. Moura, Yoshiko Wakabayashi.

Room "Riviera Maya"

Session: Routing Problems
Chair: *Amanda Montejano*

A Branch-and-price Algorithm for the Multi-
Vehicle Covering Tour Problem
by *Ramon Lopes, Vitor A. A. Souza,*
Alexandre Salles da Cunha.

On the Monotonicity of Process Number
by *Nicolas Nisse, Ronan Pardo Soares.*

10:55AM-11:10AM ———————— **Break** ————————

Room "Los Cabos"	**Room "Riviera Maya"**
Session: Convexity in Graphs	Session: Combinatorial Geometry I
Chair: *Mitre Costa Dourado*	Chair: *Bernardo Ábrego*

11:10AM-11:35AM

Polynomial time algorithm for the Radon number of grids in the geodetic convexity
by *Mitre Costa Dourado, Dieter Rautenbach, Vinícius Gusmão Pereira de Sá, Jayme Luiz Szwarcfiter.*

Almost Empty Monochromatic Triangles in Planar Point Sets
by *Deepan Basu, Bhaswar B. Bhattacharya, Sandip Das.*

11:35AM-12:00PM

Hull number: P_5-free graphs and reduction rules
by *J. Araujo, G. Morel, L. Sampaio, R. Soares V. Weber.*

Empty triangles in complete topological graphs
by *Andres J. Ruiz-Vargas.*

12:00PM-12:25PM

The convexity of induced paths of order three
by *R. T. Araújo, R. M. Sampaio, J. L. Szwarcfiter.*

Balanced 6-holes in linearly separable bichromatic point sets
by *Oswin Aichholzer, Jorge Urrutia, Birgit Vogtenhuber.*

12:25PM-12:40PM ———————— **Break** ————————

Room "Los Cabos"

12:40PM-1:30PM, Plenary   Chair: *Bernardo Ábrego*

Art Gallery Problems, Old and New
by *Jorge Urrutia.*

1:30PM-3:00PM ———————— **Lunch** ————————

Room "Los Cabos"

3:00PM-3:50PM, Plenary   Chair: *Deborah Oliveros-Braniff*

Independent sets in hypergraphs
by *József Balogh.*

3:50PM-4:10PM _____ **Break** _____

Room "Los Cabos"

Session: Graph Recognition
Chair: *Deborah Oliveros-Braniff*

4:10PM-4:35PM
Graphs with Dilworth Number Two are Pairwise Compatibility Graphs
by *T. Calamoneri, R. Petreschi*.

4:35PM-5:00PM
Snarks and Flow-Critical Graphs
by *Cândida Nunes da Silva, Lissa Pesci, Cláudio L. Lucchesi*.

Room "Riviera Maya"

Session: Polytopes
Chair: *Guillermo Durán*

A note on the disjunctive index of joined a-perfect graphs
by *S. Bianchi, M. Escalante, M. S. Montelar*.

On the representatives k-fold coloring polytope
by *Manoel Campêlo, Phablo F. S. Moura, Marcio C. Santos*.

Room "Los Cabos"

Session: Pseudo Random Graphs
Chair: *Deborah Oliveros-Braniff*

5:00PM-5:25PM
Extremal results for odd cycles in sparse pseudorandom graphs
by *Elad Aigner-Horev, Hiêp Hàn, Mathias Schacht*.

5:25PM-5:50PM
An approximate blow-up lemma for sparse pseudorandom graphs
by *Peter Allen, Julia Böttcher, Hiêp Hàn, Yoshiharu Kohayakawa*.

Room "Riviera Maya"

Session: Polytopes
Chair: *Guillermo Durán*

The 2-dominating set polytope of cycles and related graph classes
by *G. Argiroffo, M. Escalante, M. E. Ugarte*.

Lovász-Schrijver SDP-operator and a superclass of near-perfect graphs
by *S. Bianchi, M. Escalante, G. Nasini, L. Tunçel*.

Friday, April 26th, 2013

Room "Los Cabos"

9:00AM-9:50AM, Plenary   Chair: *Sulamita Klein*

Selfish and Dynamic 2D Bin Packing
by *Yoshiko Wakabayashi*.

9:50AM-10:05AM ————————— **Break** —————————

Room "Los Cabos"	Room "Riviera Maya"
Session: Transversals in Graphs	Session: Topological Methods
Chair: *Sulamita Klein*	Chair: *Paulina Figueroa*

10:05AM-10:30AM

Clique cycle transversals in distance-hereditary graphs
by *Simone Esposito, Loana T. Nogueira, Fábio Protti*.

Small degeneracy of antiferromagnetic triangulations
by *Andrea Jiménez*.

10:30AM-10:55AM

The transversal numbers of linear systems with given 2-packing numbers
by *A. Vázquez-Ávila, G. Araujo-Pardo, A. Montejano, L. Montejano*.

Geometric variants of Hall's Theorem through Sperner's Lemma
by *Leonardo Martinez, Luis Montejano*.

10:55AM-11:10AM ————————— **Break** —————————

Room "Los Cabos"	Room "Riviera Maya"
Session: Graph Theory II Chair: *Gabriela Araujo-Pardo*	Session: Combinatorial Geometry II Chair: *José Zamora*

11:10AM-11:35AM

Too many triangles by *Boris Albar, Daniel Gonçalves.*	Diffuse Reflections in Simple Polygons by *Gill Barequet, Sarah M. Cannon, Eli Fox-Epstein, Benjamin Hescott, Diane L. Souvaine, Csaba D. Tóth, Andrew Winslow.*

11:35AM-12:00PM

Bipartite Graphs, Hamiltonicity and $\mathcal{Z}$ graphs by *M. Sohel Rahman, M. Kaykobad, Md. Tanvir Kaykobad.*	On Schur's conjecture by *Filip Morić, János Pach.*

12:00PM-12:25PM

Fulkerson's Conjecture and Loupekine snarks by *Kaio Karam, C. N. Campos.*	A new infinite family of minimal non-orientable matroids of rank 3 with $3n$ elements by *Hidefumi Hiraishi, Sonoko Moriyama.*

12:25PM-12:40PM ——————— **Break** ———————

Room "Los Cabos"

12:40PM-1:30PM, Plenary   Chair: *José Zamora*

A Non-expensive Homological Helly Theorem
by *Luis Montejano.*

1:30PM-3:00PM ——————— **Lunch** ———————

Room "Los Cabos"	**Room "Riviera Maya"**

Session: Graph Colorings
Chair: *Graciela Nasini*

Session: Combinatorial Optimization
Chair: *Pablo Rey*

3:00PM-3:25PM
b-chromatic index of graphs
by <u>*Carlos Vinícius G.C. Lima*</u>, *Nícolas A. Martins, Leonardo Sampaio, Marcio C. Santos, Ana Silva.*

Robust Optimization for the Connected Facility Location Problem
by <u>*M. Gisela Bardossy*</u>, *S. Raghavan.*

3:25PM-3:50PM
Null and non–rainbow colorings of maximal planar graphs
by <u>*Amanda Montejano*</u>, *Jorge L. Arocha.*

Arc-based integer programming formulations for three variants of proportional symbol maps
by <u>*Rafael G. Cano*</u>, *Cid C. de Souza, Pedro J. de Rezende, Tallys Yunes.*

3:50PM-4:10PM ———————————— **Break** ————————————

Room "Los Cabos"	**Room "Riviera Maya"**

Session: Graph Colorings
Chair: *Graciela Nasini*

Session: Combinatorial Optimization
Chair: *Pablo Rey*

4:10PM-4:35PM
Recoloring bounded treewidth graphs
by *Marthe Bonamy,* <u>*Nicolas Bousquet.*</u>

Pruned discrete random samples: extended abstract
by *Rudolf Grübel,* <u>*Paweł Hitczenko.*</u>

4:35PM-5:00PM
On the packing chromatic number of hypercubes
by <u>*Pablo Torres*</u>, *Mario Valencia-Pabon.*

The Wide Partition Conjecture and the Atom Problem in Discrete Tomography
by *Christoph Dürr,* <u>*Flavio Guíñez.*</u>

5:00PM-5:25PM
Oriented coloring in planar, bipartite, bounded degree 3 acyclic oriented graphs
by <u>*Hebert Coelho*</u>, *Luerbio Faria, Sylvain Gravier, Sulamita Klein.*

On the first Chvtal closure of the set covering polyhedron related to circulant matrices
by *Paola B. Tolomei,* <u>*Luis M. Torres.*</u>